

THE MEDICAL JOURNAL OF AUSTRALIA



VOL. I.—30TH YEAR.

SYDNEY, SATURDAY, FEBRUARY 27, 1943.

No. 9.

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The Sir Richard Stawell Oration.¹

By BASIL KILVINGTON,
Melbourne.

SIR RICHARD RAWDON STAWELL, in whose memory this oration is given, was a member of a very distinguished family. His father, Sir William Stawell, played a notable part in early Victorian history, and was one of those who agitated for the separation of Port Phillip, as our State was then called, from New South Wales. He became the first Attorney-General and later held the high office of Chief Justice of Victoria. I need not go into details of the history of this family, as it has been given by a former lecturer, Dr. A. L. Kenny, in the Stawell Oration in 1940. With such a heritage we should expect the unusual ability and character which Sir Richard possessed.

My relation with Sir Richard was first as a student and later on as a younger companion. When I was doing my medical course, he was an out-patient physician at the Children's Hospital. That was before he became a physician at the Melbourne Hospital. I look on him and Dr. John Williams as the most instructive teachers we had. Though attendance at the Children's Hospital was optional, many students of my year regularly attended his clinic in the out-patients' hall there. He taught me to use the stethoscope and gave me the only instruction in anaesthetics I ever received (because in those days students were not taught to give them), and by the way it was chloroform only that was administered.

Shortly after I graduated he moved to Spring Street, and before his marriage lived with Mr. Hamilton Russell and with that pioneer in X rays Mr. A. G. Fryett. The younger men were always welcomed to this home. In the summer vacation he made, with Mr. Fred Bird and Dr. Mollison and Mr. Fryett, long walking expeditions to

various parts of the colony, and I was privileged to be one of the party to Wilson's Promontory and also to Mount Buffalo. In these holidays we were to see Stawell from the personal aspect, and he enjoyed these holidays with the enthusiasm of a boy. Curiously, later in life, I became an honorary surgeon at the Melbourne Hospital and actually corresponded for a time to him in the surgical wards. With a more mature outlook I think I appreciated his wisdom and tact with patients still more highly. Stawell died in harness as he would have wished. His wide experience was sought and given to the last in the practice of his profession.

The Trustees of the Foundation of the Stawell Oration have wisely allowed a free choice of subject and it is perhaps fitting that the subject I have chosen, the principles of nerve surgery as taught by research in nerve regeneration, was one in which he was intensely interested. His advice and suggestions were freely given in the early days of this study when I had the time to give to research, for patients were few and far between.

There is no doubt that the division of an important nerve is a major disaster, for in most cases recovery is not good and in many decidedly bad. This at first seems remarkable, as cut nerve fibres have a vigorous power to regenerate. A short description of a peripheral nerve is necessary to the understanding of this. The essential element of such a nerve is a single fibre containing an axis cylinder, a long filament connecting a nerve cell in some part of the central nervous system with an end organ in skin, muscle or other structure. The length of this fibre varies from perhaps an inch to several feet in the case of the limbs. This variation in length is not an essential element, as I have shown that a short nerve may be anastomized with a long one and the previously short fibres will grow down a long track without difficulty. Around this axis cylinder is a sheath of fat, the medullary sheath in medullated fibres, and outside this again a tough membrane, the neurilemma. This has nuclei at various points, and at intervals a nodal constriction. These fibres are arranged in groups or bundles, between which are fat and the proper blood vessels of the nerve

¹ Delivered at a meeting of the Victorian Branch of the British Medical Association on October 7, 1942.

which maintain its nutrition, and a greater or less number of bundles are bound together by the nerve sheath proper. If a nerve is cut across, these bundles can be seen by the naked eye like the strands in a cable.

When a nerve is cut across, within a few days the axis cylinder fragments and disappears, the fatty sheath breaks up into droplets which show well with the osmic acid stain, and later these droplets are absorbed, and the connective tissue sheath remains as a scaffolding for the reformation of the axis cylinder (Figure I). Major importance has been given to the central end which shows little or no change, and the regeneration comes from this end. But the lower end, where the phenomena described above occur, plays by no means a negligible part and undergoes changes to allow regenerating axis cylinders to grow down it.

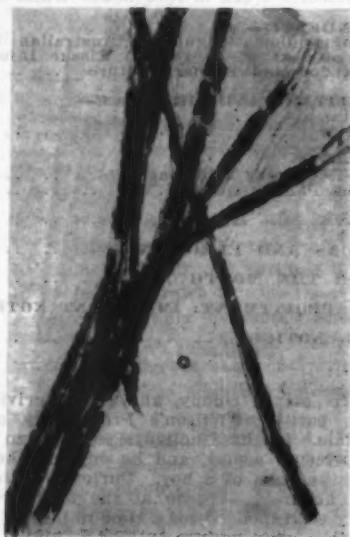


FIGURE I.

When recovery is taking place, the fatty sheath reforms in from three to four weeks, and the nerve fibrils themselves grow down in from three to twelve months depending on the length of nerve below the division. This time is extended if there is scar tissue for them to penetrate, though improvement in function, according to Stopford, of Manchester, can continue for two to three years.

The response to faradic stimuli disappears after nerve division in about fourteen days, and in recovery it reappears either shortly before, or after, voluntary power, the order seeming to vary.

As regards sensation the appearance of appreciation of deep pressure comes back first. This is of value even if recovery ends, as it prevents the liability to sores or ulcers, the so-called "trophic ulcers". Next the recognition of touch returns in a confused manner with response to pin prick, and finally the ability to localize light touch accurately and to appreciate two points of a compass slightly separated. These last two forms are usually called protopathic and epicritic sense and are described as separate phenomena, but I fancy the difference is a quantitative and not a qualitative one—that is, it is due to the actual numbers of nerve fibrils joining and connecting with the sensory end organs. If recovery is not fairly complete, accurate localization never returns.

It has been estimated that the fibrils grow down at the rate of about one inch in twenty-five days till the terminal end organ is reached.

Young and his co-workers have tested this rate on rabbits, the animal being pinched along the course of the

regenerating nerve and the level of the spread reflex of the toes noted. The return of sensory function could be observed by pricking with a sharp pin the previously anaesthetic area and observing the "withdrawal reflex". By these tests they estimated the rate of axone growth at 3.5 millimetres a day, though the return of function does not keep pace with this, being about two millimetres a day. Naturally from this, we understand that recovery takes place earlier when a nerve, say the median, is cut at the wrist than when it is divided at the region of the elbow.

Dr. Kellaway has informed me of a personal conversation he had with Weddell, who worked with Wollard in the anatomy school in the University of London. He has used intravital methylene blue which has a selective action on nerves and their endings and enables them to be studied in thin pieces of tissue. His investigations explain the phenomena of return of sensation. Pain is subserved by a superficial network of nerve endings with beaded ends. Touch is supplied by the Meissner corpuscles lying deeper, while cold and heat are appreciated by still deeper endings. What is interesting is that complete feeling in these sensations is present only if at least two overlapping fibres have regenerated and if only one is present localization is inaccurate and sensation unpleasant. This holds at any rate as regards pain and touch. Weddell states that in regeneration, growth commences rapidly from the central end and slows off as the fibre approaches the periphery. He also states that with motor fibres it varies from 1.0 to 1.3 millimetres a day, but this varies in different animals. I have always found regeneration quicker and more perfect in animals than in man.

Weddell says that there are two places where this rate is slowed down—where the fibres are penetrating the seat of the lesion and especially if there is scar tissue, and where they join up with the terminal end organ.

If a nerve is crushed and not divided, the fibrous tissue elements are intact, but the frail nerve elements are crushed and destroyed. Such an injury can be made experimentally by crushing the nerve carefully with smooth forceps or tying a stout ligature round the nerve temporarily. When a nerve is cut across, all the elements, fibrous tissue and nervous, are, of course, involved. Recovery after the first class of injury is practically complete and accurate. What explains the great difference in recovery after nerve crushing and nerve division? There are two factors. After division there is complete rearrangement of nerve pattern, and there is usually a certain amount of scar tissue, not only at the point of section, but in some cases actually extending up and down along the nerve trunks from this point. This scar tissue is recognized by the hard fibrous feel of the nerve, though to the naked eye there is not much change. When a nerve regenerates the axis cylinders branch out in several strands, and these, or some of them, find their way down the small fibrous tunnels which lie in the distal part of the trunk. Unfortunately, in growing down they exercise no choice in picking up their old tracks, but apparently grow down the nearest sheath available. In this way very few fibres find their old paths, but if they connect up with the same muscle they were originally supplying, this may not matter greatly. They often, however, supply muscles with quite different function, and quite often actually grow down afferent or sensory tracts and probably connect up with the skin end organs; and this results in no useful recovery. Slight rearrangement in supply to a muscle does not affect things much if that muscle is one producing a coarse movement such as elevating the hand at the wrist (radial nerve) or dorsiflexion of the foot (peroneal), but if it involves a fine movement such as the ulnar produces in the hand, slight alteration in pattern spoils the accuracy necessary to skilled work. This accounts for the prognosis being much better after injury of the radial (musculo-spiral) than after that of the ulnar nerve. In the case of the median nerve recovery is usually incomplete and inaccurate.

Probably the same principle holds as regards afferent or sensory fibres, though this is not so easily demonstrated experimentally, and it is most likely that many axis

cylinders from sensory fibres grow down to muscle cells. Frequently, several of the branches from one fibre persist, as many fibres do not from various causes grow down the lower end of a divided nerve. This multiplication of fibrils compensates for the shortage and this is all to the good, but unfortunately branches from a single fibre may actually grow down to supply antagonistic muscles, or one branch grows down to a muscle and another to a skin sensory end organ. It is easy to realize the confusion in central readjustment after such a change.

This division of the axones was first shown by cutting two nerves and joining up the central end of one to the lower ends of both. After regeneration takes place and the nerve is again divided above the suture line, stimulation of the lower not only produces response in its proper muscles, but also in those of the companion limb. It is found also that if a single nerve is divided and sutured the same axone-splittings all take place, and this is a fundamental observation. It is easily understood that when one nerve is joined to two, this multiplication compensates for the relatively few fibres above compared with those below, but it cannot do so indefinitely, as a small central nerve cannot innervate satisfactorily a large lower one. This axone-splitting in a single nerve after section and subsequent regeneration are tested for in the same manner as when one nerve is joined to two, and it is to be emphasized that this never takes place in a normal and uninjured nerve. Electrical testing shows this phenomenon in motor nerves, and Watrous (*Proceedings of the Society of Experimental Biology and Medicine*, 1940) estimates that three-quarters of the muscle contraction is through bifurcated fibres after division of a single nerve. This large proportion is difficult to understand, as it means that more than half the motor fibres do not grow down the distal part of the trunk; as far as has been observed, never more than one fibre occupies a single nerve tunnel.

It is probable that a similar arrangement occurs with sensory fibres, though this is difficult to prove and has never actually been done. As I mentioned before, when a nerve is cut across, the down-growing axis cylinders apparently exercise no selection in seeking their own compartments, but seem to take the path which is nearest, and few fibres occupy their old sheaths. Not only does this apply to motor fibres choosing different motor tunnels, but some grow down those previously reserved for sensory fibres. When they divide one branch goes down to a motor end organ, and another to a sensory end organ, and it is said actually makes some kind of connexion with this. All this makes for the utmost confusion, and the cortical centres have to make some readjustment out of this chaos. It is no wonder that recovery after nerve division is usually defective.

A small but interesting experiment was performed to show this complete want of selection in a regenerating nerve. I joined the central end of the phrenic nerve (which, of course, normally innervates the diaphragm) to a part of the brachial plexus which produces shoulder movement. After regeneration these shoulder muscles were of no use in voluntary movement of that part, but merely underwent rhythmical contraction synchronous with respiration. When the animal was out of breath or panted these respiratory movements in the shoulder were greatly exaggerated.

In many cases the ends of the divided nerve are not brought together; the nerve injury is overlooked (which should not occur) or infection in the wound causes the sutures to come out, or possibly the surgeon thinks it is not advisable to suture at all in a dirty wound. In this case the upper end forms the well-known bulb-like expansion, in which the fibres twist and grow in all directions, with only perhaps an occasional one finding its way through to the lower end (Figure II).

The upper end of the lower trunk tapers off, and no fibres beyond an occasional stray one from those in the divided fibrous or muscle tissue finds its way down. These I have called "wound fibres". If these are at all numerous there may even be a smaller bulbous swelling on the lower end, but the changes in the lower end, though not much emphasized, have been considered by Young as of great

importance. They consist of multiplication of the nuclei in Schwann's sheath.

It is well worth while making an attempt to join the cut ends later—that is, to perform a secondary suture—and to do this the nerve has to be exposed and the ends must be freshened and brought together as in primary suture. Experience leads one to recognize how much length should be sacrificed, and though it makes the approximation more difficult, slices should be cut from the upper end till definite nerve bundles can be recognized with the naked eye. Apparently little need be taken off the lower end if it is not hard and indurated with scar tissue.

Young states that the following points have to be considered in deciding this: (a) the extent to which the nuclei of Schwann's sheath have multiplied, (b) the presence and degree of endoneurial fibrosis, (c) the presence of defects in the epineurium which would cause bad apposition, (d) the degree of medullation.

These can only be estimated microscopically, but they fortunately generally coincide with the naked-eye appearance I have mentioned, and the amount of nerve tissue to be removed can be estimated while the operation is in progress.

The main technical difficulty in secondary nerve suture is the interval between the two ends after proper freshening, and if separation is extreme it may make suture impossible. If it is only of moderate amount, help can be got by flexion of a joint, or by placing a nerve in a new position such as may be done with the ulnar at the elbow. In this way an inch perhaps can be gained. Another device, but a risky one, is to stretch the nerve when perhaps another half an inch can be gained; if this is overdone, however, it may result in rupture of some fibres, and is probably not advisable as a rule.

In animals a fairly good result can often be obtained by using a bridge of one or more strands of a relatively unimportant nerve, generally a sensory one from another part of the body. Owing to the non-selective growth of nerve fibres a purely sensory bridge is as good as a largely motor or a mixed nerve. I have proved experimentally that it is immaterial whether the strand is reversed or not. Experiments are more favourable in animals than in man, for regeneration is more active in lower animals, and they are performed in a non-septic unscarred area.

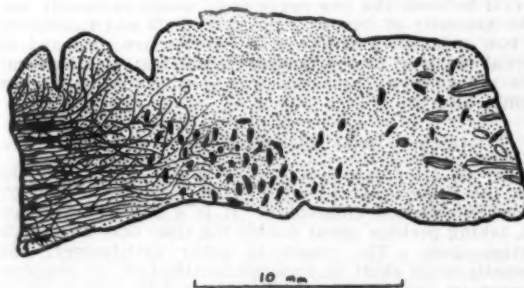


FIGURE II.

From Hohne's work; shows axis cylinders trying unsuccessfully to grow through scar tissue. The silver stain shows up the contorted axis cylinders.

Young, Holmes and Seddon have shown that several small strands laid parallel form a more efficient bridge than a single length of a larger nerve. Nerve bridging has not been performed with any frequency in man, but Ballance and Duel have shown its value in the repair of the facial nerve in its bony canal.

Since I have written this, Seddon, Holmes and Young have reported another case of nerve bridging in the last number of *The British Journal of Surgery*. The patient was a man of twenty-six whose median nerve had been cut and not sutured, and at the secondary suture a length of scar 3.5 centimetres in length separated the ends. This was removed and the interval filled in by three strands of the internal cutaneous nerve laid parallel and fixed by

fibrin coagulant. Eight months later, little recovery had occurred, and the patient was again operated on and the graft removed for microscopic examination. The tissue was stained by the silver method to show the axis cylinders, and the illustrations show well-developed myelinated fibres in the graft which scar tissue had prevented from joining the ends completely; but enough was demonstrated to prove that the graft had survived and was capable of carrying fibres (Figure III). The authors stress the point that several strands are preferable to a single larger piece of nerve, which tends to necrose. They also advise that the total diameter of the bridge should be approximately equal to that of the nerve that is being repaired, otherwise there will be insufficient nerve sheaths to contain all the down-growing fibres.

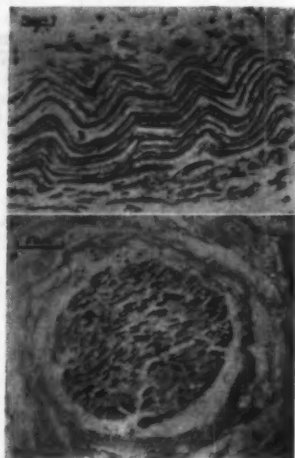


FIGURE III.

These reports suggest that nerve bridging might be more extensively tried, as it gets over one difficulty in satisfactory secondary nerve suture. This is the extensive interval between the two nerve ends, which is largely due to the necessity of removing the nerve bulb and freshening the two ends till healthy nerve bundles are seen and to internal scarring in the trunks themselves; also in some cases a length of the nerve has been destroyed by the original injury.

Recovery after Secondary Nerve Suture.

Recovery after secondary nerve suture follows in the main the same order as after primary suture, but there are well-recognized differences. It is a much slower process, taking perhaps about double the time that immediate junction does. The result is never satisfactory, and it usually stops short of accurate localization, or complete recovery in small muscles. This is usually put down to degeneration occurring in the terminal end organs in skin and muscle, and also to atrophy and disappearance of muscle cells. Young and his co-workers advance another reason. This is that after degeneration and demyelination there is proliferation of the Schwann cells in the sheath, so that structure becomes a solid cord instead of a hollow tube and the down-growing fibres find difficulty in penetrating this; yet it appears worth while attempting secondary suture in most cases when there is no return of function after an appropriate time has elapsed or when it is known that the two ends are apart. In these it cannot do any harm and a slight return of sensation is of value if it only prevents the occurrence of anæsthetic or trophic sores. A moderate return of "protopathic" sense will do this.

I hardly need go into the question of nerve anastomosis, which is now almost reserved for facial paralysis of traumatic origin. In this the facial muscles are supplied

with new fibres from an adjacent nerve; the hypoglossal is mainly used, though the spinal accessory has been taken. It is often unsuccessful because it is delayed too long, and the changes described before have occurred. The regeneration in anastomosis offers no new principles, though the question of reeducation of cortical control is interesting. When a patient has recovered from anastomosis of the facial with the hypoglossal nerve, he finds that when he wishes to move his face he has to concentrate on his tongue, though this in time becomes more or less a habit; but it never becomes an involuntary or reflex action, for an emotional outburst such as a laugh leaves the face almost immobile on the affected side. This is really an example of a mass action after alteration in nerve pattern and central control. Nerve anastomosis appeared at one time to offer possibilities in the treatment of severe degrees of infantile paralysis, but some of the affected muscles in time regain slight function which is as good as that which could be expected after anastomosis, and we do not know for a long time what is to be the extent of natural recovery. It is not worth while taking the risk of sacrificing a healthy nerve for such an uncertain outlook, though theoretically the multiplication of nerve fibrils after division would be thought to help the result.

The surgical problem of treatment of partial division of a nerve such as is often seen following puncture with a sharp piece of glass or a sharp body is also explained by a study of the regenerative process. A slight nick of the nerve trunk usually results in no change which can be demonstrated by testing, though the patient states that his sensation is altered in the area supplied by that nerve. A deeper cut, say one dividing a third of the thickness, causes demonstrable alteration in sensation and some muscular weakness, but no total paralysis of any muscle, except when the cut is situated a short distance above the point at which a branch comes off the parent nerve. Complete paralysis of individual muscles may be found in the sciatic nerve, but the reason for this is that the sciatic is really a double nerve made up of the internal and external popliteal nerves whose fibres are quite separate and one of which may be completely divided.

The explanation of the absence of complete loss of power in an individual muscle in partial division is explained by a study of the arrangement of the individual fibres. In the course of a nerve from the spine to the periphery these fibres are continually regrouping, and this occurs in three regions. First there are the main nerve plexuses such as the brachial and lumbosacral, in which spinal roots are grouping to form the main nerve trunks. In the trunks themselves, as was shown long ago by Langley by means of fine dissection, the individual bundles rearrange themselves. The exact pattern may not be the same in different animals, but in the human sciatic (or internal popliteal) there are three separate areas where this occurs. The result is that no nerve bundle proximal to this internal nerve plexus corresponds even approximately with that found below. It may be roughly compared with the alteration in position of strands in a lamp Wick.

The third place for regrouping, as I have recently shown, is in the individual bundles themselves. This can, of course, be demonstrated only by the microscope. If a single nerve bundle, such as the cat's ulnar nerve, be partly cut across, the degeneration fibres can be shown by staining the fatty sheaths with osmic acid. At first the degenerating fibres appear on the side on which the cut has been made, but as we trace the nerve down these gradually distribute themselves irregularly all over the cross section of the bundle. This rearrangement finishes a short distance above the point at which a branch comes off, and if the cut is made here all the fibres of that branch are divided and the paralysis in this branch is complete. If the cut is made higher up, only a fibre here and there is divided and every muscle still has some intact fibre supplying it.

The outlook is naturally much better after incomplete than after total division. This not only holds after those slight injuries in which only a few fibres have been cut (and these are so relatively few that the loss of use does not materially alter movement, or in the case of sensation

does not go beyond the threshold where changes can be demonstrated objectively), but it also applies when the gap made in the nerve is more extensive, for in these the remaining fibres hold the main trunk in almost normal position and the interval of separation is slight. Sherren, working with Head, states (injuries of nerves) that during recovery from these, both forms of sensation, light touch and prick, return together, and they state that the outlook is usually good, though this is not always the case. With a cut extending for half or more of the way across a nerve, the angular gap is filled with clot which organizes and, if there is sepsis in addition, may result in dense scar tissue. This renders recovery unlikely, and the scar contraction may even interfere with the uninjured fibres and give rise to intense pain.

It is usually advised that no operation should be done in cases of partial nerve division, but I am strongly of opinion that if any objective symptoms are present, the nerve should be exposed and the gap closed by suturing the divided part of the nerve. Sutures holding the sheath are all that is necessary. This minimizes scarring and also approximates the divided ends. In partial division, too, the nerve cannot have its pattern grossly altered. If exploration is found to be scarcely necessary no harm has been done, but in most cases it is found to be well worth while.

The consideration of experimental nerve regeneration leads to a correct application of the principles of treatment. Nerve suture, either primary or secondary, should be done as early as possible within the limits of safety. The big problem in primary suture is the possibility of the occurrence of sepsis, and in some injuries this is almost a certainty, as in cases in which early skilled treatment is impossible—for example, in many war injuries. In such cases it is often advised that no nerve suture be undertaken at the time, but the nerve ends be approximated as well as possible by position of the limb till the infection is controlled. I think a great deal can be effected by excision of damaged tissues as in compound fractures, the ends of one or two sutures of absorbable material being approximated and some preparation of sulphonamide being applied locally in the wound (though there is some evidence that this chemical if applied directly to the nerve may damage it). If infection does occur it is mild and the sutures in the nerve prevent much separation of the ends.

It is now widely recognized that it is important to avoid any twisting or alteration of the nerve axis, aggravating the distortion of nerve pattern, and I need not enlarge on this very important point.

The suture material should be absorbable, but many surgeons use silk, though this is never passed through nerve fibres but only penetrates the sheath. This is, of course, possible with larger nerve trunks, but in smaller ones is impracticable and then absorbable sutures are essential. In small nerves Young has experimentally used for the smaller nerves a binding material composed of coagulated fowl plasma, which binds the ends together like sealing wax and produces no scarring. This has so far rarely been used in the human being.

In his article in *The Lancet*, Young has two illustrations which show the amount of apposition and absence of scar tissue with fowl plasma as compared with a neat suturing with silk (Figures IVA and IVB). The use of limiting material such as vein or Cargile membrane has been abandoned, though in a scarred area it is wise if possible to place the nerve after it has been sutured in a new and adjacent muscular plane where the tissues are healthy. I need not stress the after-treatment of relaxation of the paralysed muscles by position, aided by some splinting or elastic traction by means of some apparatus to act for the weak muscles; or the value of massage and electrical treatment to maintain the condition of the muscle fibres, as these factors are well recognized.

Time does not allow me to discuss the value of nerve anastomosis, except to state it is very risky to sacrifice any healthy nerve to effect this; there is always an uncertain element in recovery from a gross nerve injury.

In conclusion, I should like to say that recovery after division should theoretically be good, because the powers of nerve regeneration are vigorous, but the factors of distortion of pattern and sepsis are so frequent that the

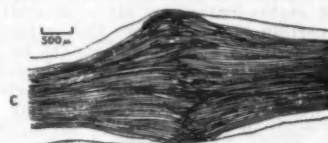


FIGURE IVA.
From Young's article.



FIGURE IVB.
From Young's article.

actual result is only a partial restoration of the original function. As far as I can see any improvement in this field of surgery lies in appreciation of and avoidance as far as possible of these two factors militating against success.

SOLITARY INTRACRANIAL CHONDROMA.

By R. A. MONEY,
Sydney.

INTRACRANIAL CHONDROMATA—that is to say, progressive simple neoplasms composed of cartilage, appearing in tissues which do not normally contain cartilage—are very rare occurrences. In most works on neoplastic disease, many portions of the body, such as the tongue, the tonsils, the thyroid gland, the salivary and mammary glands, the diaphragm, and the organs of the pelvis, are mentioned, but not the intracranial cavity. It seems therefore justifiable to add another case to the list of intracranial chondromata recently discussed by Chorobski, Jarzyski and Ferens.⁽¹⁾ After completely reviewing the literature, these authors were able to find records of only 25 cases, and to add the twenty-sixth case of their own. Of these cases, in seventeen the diagnosis was made at operation and in the remaining nine it was made only at autopsy. Two of the patients who were operated upon died, and the other fourteen were cured by total removal of the tumour.

An analysis was also made of the sites at which these chondromata most frequently occurred; in the sixteen cases in which this was mentioned, ten of the tumours were found in the parietal region and six at the base of the skull. The *fala cerebri* was regarded as the site of origin of most of the tumours in the parietal region, and practically all the tumours reported were closely attached to the *dura mater*.

Origin and Pathology.

The presence of a cartilaginous tumour within the cranial cavity at once raises the question of its origin; this, however, is difficult to determine, because the tumours have been found free of any dense connexion with surrounding structures and appear to be finished products of abnormal growth. As far as the base of the skull is concerned, this region is preformed in cartilage, and their origin here may be explained on the theory that some cartilage cells, which have been left during this developmental period, have been displaced, to retain their embryonal characteristics and give rise to cartilage

formation. The vault of the skull, however, is composed of membranous bones, so that such a theory does not apply here. But since the ontogenesis of the skull repeats in many details its phylogenesis, the formation of these chondromata at the vault may still be put down to persistence of embryonal rests, since, according to some authorities, certain portions of the primordial skull regress, in later stages of development, to be replaced by membrane bone. This seems to be particularly the case with the parietal bone, some of whose cartilaginous portion may fail to disappear completely, and thus the dermal origin of the vault of the skull is by no means complete. Although this theory may not be entirely accepted, it at least affords some means of explanation; moreover Koelliker, as far back as 1839, asserted that the membrane from which some parts of the frontal, temporal, parietal and even nasal and vomer bones are formed may be considered as belonging to the perichondrium of the primordial cranium.

As most of the tumours are closely attached to the *dura mater*, it may be well to remind ourselves that foci of superfluous cartilage are frequently found in the periosteum of skeletal bones, and on the other hand, that bony plaques are not infrequently found in the *dura mater*, in the arachnoid and in the arachnoidal inclusions encountered in the *dura mater*. The presence of aberrant embryonal cartilaginous rests in the arachnoid and *pia mater* may be explained on the ground that the vascularized mesenchyme that later builds up the *pia mater* grows both from above (that is, from the falx) and from below (that is, from the base of the skull); it is just possible that the young blood vessels included in the *pia mater* as it creeps over the entire brain may carry with them a few cartilage cells. It is also important to note that in only two of the reported cases have the chondromata been really intracerebral—that is, one connected with the *tela choriodea* of the third ventricle, and the other attached to the choroid plexus of the lateral ventricle.

Another explanation of their origin may be that they arise directly from the pluripotential undifferentiated mesenchyme, as such cells are able to give origin to meningeal, angioblastic, psammomatous, osteoblastic, fibroblastic, sarcomatous and even lipomatous neoplasms. Thus, a chondroma closely attached to the meninges would be nothing else than a variety of "meningioma". Numerous other explanations of their origin have been offered by the various authors of the cases reported; but they need not be repeated here, as they are clearly set out in the article to which reference has just been made.

From the pathological point of view, the tumours are all found to consist of simple hyaline cartilage, although in some of them collagens have been present. The cells are usually rounded, oval or fusiform, and lie in distinct capsules, singly or in pairs. In some places the collagenous bundles form septa, which divide the growth into lobules. The perichondrium is composed of connective tissue fibres, more or less closely twisted and applied to each other. In some areas of the tumours, regressive changes occur and lead to the formation of cysts of various sizes filled with a serous or mucin-like material. In parts, most of the tumours have shown some calcification, usually limited to the superficial regions where lime salts have been deposited in the matrix. This calcification may be only faintly discernible in an ordinary X-ray film of the skull, but is quite clear if the tumour is radiologically examined after removal. If the regression has occurred to any degree, the tumour may then be regarded as a myxochondroma, whereas if the calcification has proceeded to any extent it may be regarded as an osteochondroma. This latter condition must be extremely rare, as Cushing in his series of 2,023-verified intracranial tumours reported only three such neoplasms, all arising from the bones of the skull.

Ætiology.

The causal relationship between new growth formation and trauma has always been a vexed question. According to divers authors, the percentage of cases attributed to trauma ranges between 2.5 and 44, although it must be admitted that trauma is thought to play a more important

role in the ætiology of meningeal tumours than in the ætiology of those situated elsewhere. The presence of inflammation and trauma preceding the appearance of a chondroma in long bones may also be a frequent finding; but except for Ewing's case, reported in 1934, and the case of the three authors to whom reference has just been made, no injury to the head is mentioned as preceding the appearance of symptoms in intracranial chondromata. The last-mentioned patient received a blow from a heavy stone in the right parietal region, which caused a depressed fracture of the skull, some five years before the appearance of any symptoms; and the tumour itself was located at the site of the tear in the *dura mater*. This could be explained on the theory that the injury caused fragmentation of the parietal bone and set free some cartilaginous rests remaining from its development. These were displaced through the *dura mater* and began to grow in the favourable surroundings of the arachnoid.

Other Features Concerning Intracranial Chondromata.

In the 26 cases recorded, the average age was thirty years; the youngest patient was aged sixteen years and the oldest sixty-four. Men were much more affected than women, and the left side was more often affected than the right. With regard to the duration of symptoms prior to the discovery of the tumour, the shortest period was four months and the longest seven, whilst the most frequent complaints consisted of epileptic attacks, hemiparesis and signs of increasing intracranial pressure. In three cases an endostosis was seen overlying the tumour, and in another three cases the diagnosis was made by the discovery of small areas of calcification in a plain X-ray film. The first case of surgical removal by modern methods was recorded by Neuman in 1927.

Report of a Case.

The following report of a case observed by myself is now submitted:

A female patient, aged twenty-one years, was referred to me by Dr. E. H. Miles, of Sutherland. She complained of infrequent attacks of nocturnal epilepsy during the last two years, having only had four recorded seizures in all, the last one being some three weeks previously. One maternal uncle had been subject to seizures after a head injury sustained whilst hunting, and had been regarded as an epileptic. Otherwise the family history was quite clear. The patient herself was supposed to have had meningitis when two years old; this illness had been treated by a pharmacist and had cleared up in two weeks. She had fallen out of an omnibus at the age of nine years, but had sustained no definite head injury prior to the onset of the first seizure, which had occurred in her sleep some two years previously. In this attack she had been found by her mother, and it was regarded as a genuine epileptic seizure. The next attack occurred fifteen months prior to her admission to hospital at about 3 o'clock in the morning, whilst she was staying with a friend. The patient herself had no knowledge of the attacks, except that the following day she usually had a slight headache, and felt "off colour". During the past year, she had, however, fallen downstairs several times, and although she had never lost consciousness, this may have been due to *petit mal* attacks.

Examination revealed no abnormality in her nervous system beyond very early papilloedema in both eyes, more pronounced on the left side. The visual acuity of her left eye had deteriorated; it was only $\frac{1}{20}$, and the visual field was somewhat constricted. Stereoscopic lateral X-ray films (one of which is illustrated in Figure I) clearly showed a thickening on the inner table of the skull, in the frontoparietal region, and small indefinitely calcified areas scattered over the frontal lobe on the left side, extending back over the parietal lobe in an irregular fashion. Lumbar puncture yielded normal cerebro-spinal fluid under a pressure of 200 millimetres, and after replacement of some 60 cubic centimetres with air, cephalography was performed. This revealed excellent filling of the ventricular system, which appeared to be generally enlarged (Figures II and III). Both lateral ventricles were displaced to the right of the mid-line; but beyond some flattening and diminution in the size of the anterior horn on the left side, no gross asymmetry was demonstrated—at least, not such as would have been expected in view of the size of the tumour subsequently found. A provisional diagnosis of parasagittal meningioma or old calcified subdural hematoma was made.

Operation was performed a few days later under anaesthesia induced by "Avertin" and ether given by the intratracheal method. After a complete transverse cross-bow incision had been made, the tissues of the scalp were reflected forward to expose the entire frontal area. The tumour was at once located underneath a drill hole placed near the mid-line anteriorly. It had a pearly appearance, and was completely vascular and deep to the dura. When its size was realized, practically the entire frontal bone was elevated by a series of drill holes placed around it and connected with a Gigli saw, care being taken in the vicinity of the middle line not to injure the longitudinal sinus. A large lobulated and irregular tumour was then found subdurally, occupying practically the whole of the area usually taken up by the left frontal lobe. The *falx cerebri* was displaced about four centimetres to the right of the middle line, and in this region there appeared to be no longitudinal sinus. Some large veins extended across from the compressed and deformed frontal lobe to the anterior limits of the falx, and then appeared to pass down through the cribriform plate. Beyond some difficulty in procuring haemostasis in this region owing to tearing of one of these veins, the tumour itself shelled out comparatively readily. The brain made no attempt to expand, and the cavity was filled with Ringer's solution. The *dura mater* was sutured as accurately as its thinness would allow.

After a somewhat difficult convalescence due to a mild infection of the traumatized dura and the scalp tissues and the formation of some intracranial blood clot, the patient made a complete recovery, and was discharged from hospital five weeks after operation.

The tumour weighed 221 grammes and measured 12.5 centimetres by 7.5 centimetres by 5.0 centimetres (see Figure IV). It was lobulated and irregular in appearance, and

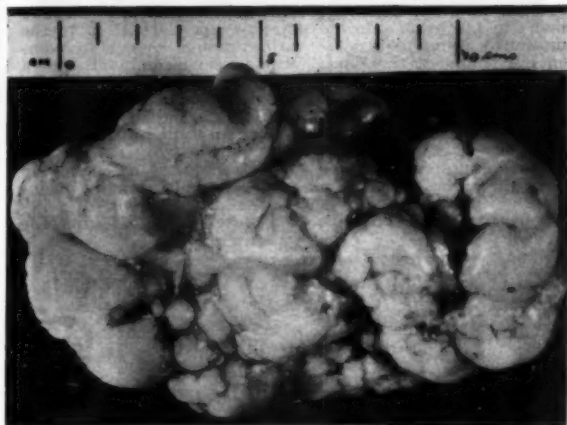


FIGURE IV.

The tumour itself seen from its inferior aspect, which was in contact with the cerebrum.

consisted of pure hyaline cartilage. A microscopic section (Figure V) was examined by Dr. G. Davies, pathologist at the Royal Prince Alfred Hospital, Sydney, and he reported as follows:

The appearances are those of a chondroma. The cells occur in lacunae, but their nuclei are small and darkly staining, and their cytoplasm ill defined and pale. Here and there are small clusters of blood vessels. Towards the centre, the lacunae become large and confluent, giving the appearance of degeneration.

The patient was seen at frequent intervals for the next two years, and beyond complaining of occasional headaches she appeared to be in good health and had had no further seizures. About a year after the operation, encephalography was repeated. This indicated that the intracranial pressure and the cerebro-spinal fluid were normal. The ventricular system had taken up a more or less normal position; but whereas the right lateral ventricle remained about the same size as before operation, the left lateral ventricle had dilated considerably, as the brain had expanded to fill in the space left by the removal of the tumour (see Figures VI and VII). Inspection of the area of the bone flap indicated that the hyperostosis had disappeared, and her headaches were regarded as being due to the presence of adhesions.

Summary.

1. Solitary intracranial chondroma is an extremely rare condition, only 26 cases having been previously reported.
2. Some theories regarding its origin and pathology are discussed, and a possible relationship to trauma is mentioned.
3. An additional case is described and illustrated, with a follow-up record.

Reference.

- (1) J. Chorobski, J. Jarsymski and E. Ferens: "Intracranial Solitary Chondroma", *Surgery, Gynecology and Obstetrics*, Volume LXVIII, March, 1939, page 677.

THE CARE OF EYE SOCKETS.

By B. K. RANK,

Major, Australian Army Medical Corps, Facio-Maxillary and Plastic Unit, 115th Australian General Hospital.

In face wounds, when the eye or its remnants have to be removed, the ultimate prognosis is in terms of facial appearance. This depends on the capacity to wear an artificial eye in the most natural way.

Modern eye prostheses, like most modern prostheses, are vastly improved substitutes. Colour and pattern replicas indistinguishable from the normal eye can be made. Even the appearance of a dilated or contracted pupil can be reproduced by colour patterns set deeper in the substance of the globe and manifest only by more intense light. It is the sunken appearance of the upper fornix which "gives away" most artificial eyes. If the eye socket is large enough and of correct shape so that it can accommodate a prosthesis which will adequately fill out the upper fornix, and if the lids are strong, mobile and not distorted, the final appearance of the artificial eye is indistinguishable to a casual observer. Sympathetic movement of the prosthesis with the sound eye may be well developed.

Changes in the Eye Socket and Eyelids.

The requisites for a good artificial eye have bearings on treatment following eye excision. Not generally appreciated is the importance of fitting some prosthesis, not necessarily the final one, to the empty eye socket as soon as possible. Under service conditions there have often been long periods following eye excision before a prosthesis has been fitted. This leads to aesthetic results short of the ideal. If the socket is left indefinitely without any prosthesis, notable changes occur, not only in the socket itself, but in the lids.

The Socket.

Contraction occurs proportional to the amount of raw area which undergoes healing by secondary intention. After an elective excision under civilian conditions, this contraction may be minimal in the usual period of three to six weeks before a prosthesis is fitted. After war injuries, in which the lids or sockets are damaged, contraction of the socket may be gross. Organization of granulation tissue may lead to almost complete obliteration of a socket. There may also be varying grades of adhesion between damaged lids and raw areas of the socket leading to obliteration of one or both fornices. Short of these extremes, we see all combinations of socket contraction, lid adhesion and localized scar contracture bands which require surgical correction.

The Eyelids.

The eyelids are essentially muscular structures adapted to the curvatures of the globe. When the globe is absent, there is nothing to stop them from contracting to the shortest distance between their canthal attachments, as in time they do. With long embarrassment by a dressing

and eyeshade, exudate accumulates, the lids easily gum together, and they slowly lose their sympathetic movement with the opposite eyelids. Wasting and atony result. Eyelids without an eye or prosthetic counterpart behave in the same way as any unsplinted muscle—that is, they become accommodated to unnatural positions by atony and wasting. This is the equivalent of not applying a splint in wrist drop. When a prosthesis is ultimately fitted, this degenerative condition of the lids is partly responsible for the sunken appearance, especially of the upper fornix, and for the lack of movement and expressive reactions about the eye concerned.

Recommendations with Regard to Treatment.

Varying combinations of these degenerative changes in the socket and the lids are responsible for unnecessary accent on "the artificial eye" appearance. If to these are added a stock prosthetic eye as supplied under civilian conditions, which may be quite unsuited to the particular case, a poor aesthetic result may unnecessarily brand the wounded soldier. He may even be loath to abandon his eyeshade in public. Every wounded soldier deserves the best that modern surgery and its ancillaries can provide. To this end, the following simple recommendations are made with regard to treatment following eye excision.

Where there has been no Trauma to the Lids or Socket other than Operation.

With routine after-treatment (lavage and toilet of the socket and the application of mild antiseptic drops) the socket is usually healed in two or three weeks. A prosthesis should be fitted to the shape of the socket within six weeks of excision. It should be the largest the socket will accommodate. If a satisfactory glass shell or globe cannot be obtained, a temporary prosthesis should be made of gutta-percha, which can be moulded to the shape of the cavity as an actual impression. If it is available, acrylic makes an excellent smooth temporary eye prosthesis; an impression of the eye socket is made of black gutta-percha or "Plasticine", and this is reproduced in acrylic. If acrylic is not available, the impression can always be reproduced in vulcanite in any dental laboratory.

Provided that an adequate temporary prosthesis is fitted, nothing is lost by lapse of time before a final prosthesis is available; but to leave an eye socket indefinitely without a prosthesis just because an artificial eye is not available at the time is neglect of treatment.

When there have been Wounds of the Lids or Socket.

One should not wait for healing before fitting a temporary prosthesis. As soon as granulation commences and any marked local sepsis has subsided, a gutta-percha, vulcanite or acrylic prosthesis should be made to fit the socket. This prosthesis may be self-retained if the lids are intact, but if partial or complete destruction of the lids has occurred, or if there are deficiencies in the orbital walls, various mechanical devices are necessary to maintain the prosthesis in position. A headband with supporting swivel from the forehead, or a dental cap-splint with post and universal joint attachments is the prototype of these. This is the province of the facio-maxillary units, and all patients with wounds of this type should be sent to these units as soon as possible.

Conclusion.

The use of a temporary prosthesis not only fulfils the object of minimizing socket contractures, lid adhesion and lid degeneration, but it satisfies the principle of pressure on healing wounds, which prevents hypertrophic granulation tissue resulting in the hypertrophic or keloid type of scarring. The early use of a temporary prosthesis is compatible with any local treatment that is indicated. Any prosthesis must be removable, and it must be cleaned at least twice a day, when the socket can be irrigated and cleaned and antiseptic drops (such as 1 in 1,000 solution of flavine or a 1% aqueous solution of mercurochrome) instilled. Any raw granulating area may require specific treatment for a specific type of infection. Cultural methods

must be used as a routine measure as a guide to this treatment.

Very often, conjunctivitis or free discharge is cited as a contraindication to the fitting of any prosthesis. I have frequently noted how persistent discharge from an eye socket is relieved by the routine carrying out of a toilet and the application of mild antiseptics after outer occlusive dressings and eyeshades are abandoned, and this with the use of a temporary prosthesis or eye-shell despite the discharge.

Due regard to these simple preventive measures will give the best aesthetic results with modern artificial eyes. It will also prevent the necessity for many future operations to make or enlarge eye sockets.

Reports of Cases.

OSTEOMA OF THE SKULL ASSOCIATED WITH PARASAGITTAL MENINGIOMA.

By R. A. MONEY,
Sydney.

Clinical Record.

THE patient, a male, aged forty years, was referred to me in October, 1937, by Dr. D. G. Maitland. He stated that at the age of about five years a lump was first noticed on his forehead, and his mother had told him that he had two crowns to his head. He did not pay much attention to the lump until some five years earlier, when, owing to commencing baldness, the lump became very prominent, and a peculiar feeling of fullness and pressure was experienced inside his head. During the last three years the lump had increased more rapidly in size, and lately some headaches had been experienced. A squint had been present in his left eye since the age of five years.

On examination, a large tumour was seen occupying almost the entire region of his forehead, and extending backwards beyond the hair-line. Its size and position can readily be appreciated on reference to Figures I and II, and the



FIGURE I.
Appearance of patient from in front,
prior to operation.

extensive nature of its blood supply is visible in Figure II. Beyond the internal strabismus of his left eye, due to a complete paralysis of the left external rectus muscle, no abnormality was detected in his nervous system. The left

ILLUSTRATIONS TO THE ORIGINAL ARTICLE BY DR. R. A. MONEY.

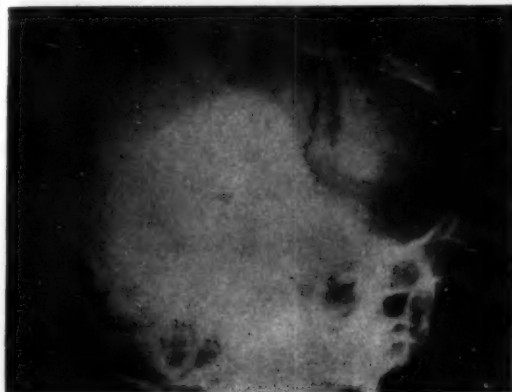


FIGURE I.

Plain lateral X-ray film, showing area of endostosis and faint "woolly" areas of calcification in the frontoparietal area.

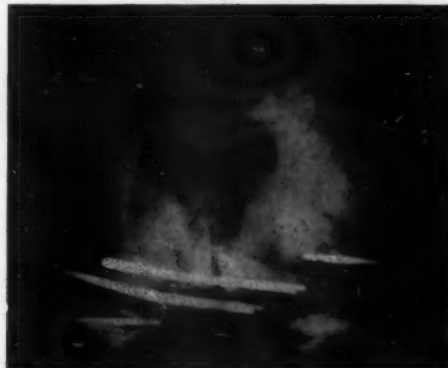


FIGURE II.

Antero-posterior encephalogram prior to operation, showing displacement of the ventricular system to the right, and the faint area of calcification intracranially. Unfortunately, all hair clips had not been removed.

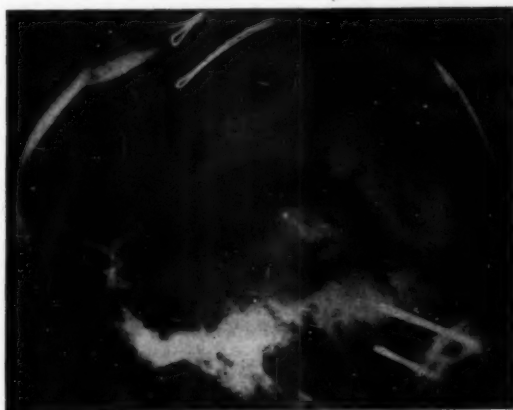


FIGURE III.

Lateral encephalogram, prior to operation, showing flattening and deformity of the anterior horn of the left lateral ventricle.

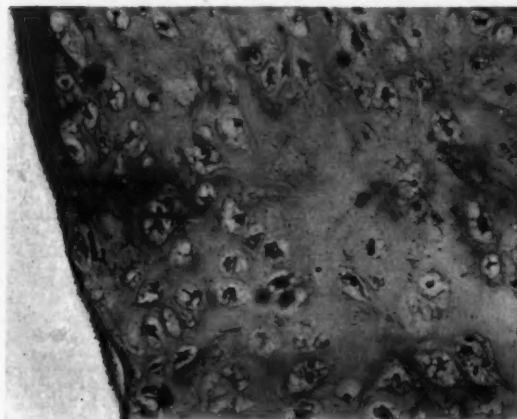


FIGURE V.

Photomicrograph ($\times 160$) of a typical area of the tumour, taken from near the surface, and showing perichondrium and hyaline cartilage.



FIGURE VI.

Antero-posterior encephalogram, one year after operation, showing the ventricular system now situated normally (or even slightly displaced to the left), and the compensatory dilatation of the left lateral ventricle. The silver clips placed on the cortical veins during the removal of the tumour are clearly seen.

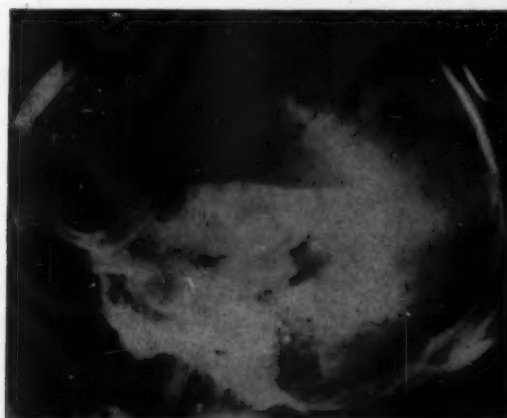


FIGURE VII.

Lateral encephalogram, one year after operation, showing the large compensatory dilatation of the left lateral ventricle, and the smaller right lateral ventricle, also the haemostatic silver clips.

ILLUSTRATIONS TO THE REPORT OF CASE BY DR. R. A. MONEY.



FIGURE III.
Plain antero-posterior X-ray view of skull, prior to operation.



FIGURE IV.
Left lateral view of skull after encephalography, showing inward growth of tumour, and deformity in the anterior horns of the ventricular system.

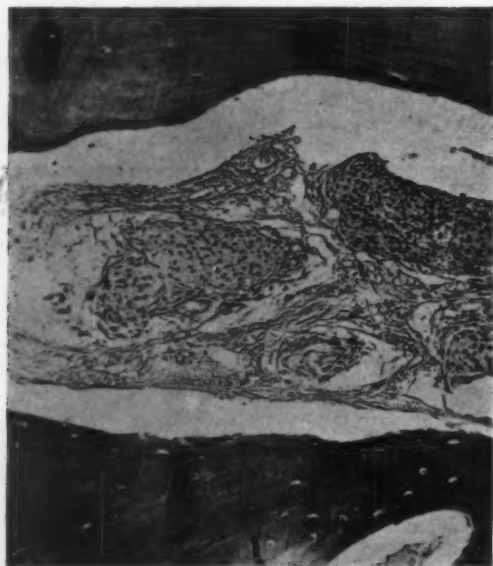


FIGURE VIII.
Photomicrograph showing bony trabeculae of irregular size and shape, with fibrous tissue in between, and containing masses of endothelial cells, identical with those seen in sections of the underlying meningioma. It is thus an osteoma secondary to meningiomatous growth.



FIGURE IX.
X-ray appearance of skull (two and a half years after operation) after the lumbar insufflation of ten cubic centimetres of oxygen. The regeneration of bone in the frontal region can be seen and also the undeformed shape and size of the anterior horns of the lateral ventricles.

fundus could not be seen, but the right showed no papilloedema. X-ray examination indicated the presence of a large osteoma, causing deformity inwardly on the surface of the brain as well as outwardly. A small quantity of air was then introduced into the ventricular system by encephalography, and this also indicated after X-ray examination that there was some deformity in the anterior portion of the ventricular system (see Figures III and IV). No indication of any increased intracranial pressure was, however, found at lumbar puncture, and the cerebro-spinal fluid contained no abnormal constituents.



FIGURE II.

Appearance of patient from the left side, prior to operation. Note the large and tortuous temporal vessels, which had a similar appearance on the right side.

Operation was decided upon for the removal of this tumour, and was carried out in three stages, under "Avertin" and local infiltration anaesthesia. At the first stage, after a transverse coronal incision had been made just behind the line of the tumour and the scalp reflected forward, a series of ten drill holes were placed in the bone at a distance



FIGURE V.

Photograph of tumour and portion of skull removed, seen from above and showing its external appearance. The actual width of the tumour was twice that of the picture.

of about one centimetre from the edge of the tumour. A large amount of blood was lost in the reflection of the scalp, and also from these drill holes, so that a blood transfusion became necessary, and nothing further was done at this stage.

At the second stage ten days later, the drill holes were connected by means of a Gigli saw, and the bone across the frontal sinuses was divided with nibbling forceps. The dura was also stripped away from the bone for a distance of about two centimetres all round; but as the centre portion appeared to be firmly adherent, and considerable bleeding had already occurred, further interference was delayed at this juncture.

The third stage was performed twelve days later, when a portion of the tumour was sawn off from the right side. This gave better access to the vicinity of the longitudinal



FIGURE VI.

Appearance of tumour from the right side, after removal of portion, at the third stage operation, to facilitate separation from dura.

sinus, where the growth was densely adherent to a solid tumour containing several spicules of bone, apparently down-growths from the bony tumour. The bony and solid tumour were then removed from the region of the longitudinal sinus and falx; the sinus did not require ligation, as the bleeding from it was controlled with pieces of muscle. The appearance of the tumour on removal is shown in Figures V, VI and VII; its weight was 565 grammes. Additional blood trans-

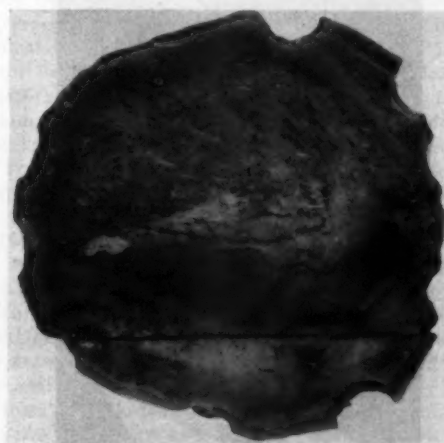


FIGURE VII.

Photograph showing under-surface of portion of skull removed. The actual width of this tumour was twice that of the picture.

fusions were given at the conclusion of the second and third stages; and thereafter convalescence was uneventful.

A portion of the solid growth, which was removed from the vicinity of the longitudinal sinus and deep to the bony tumour, was submitted to biopsy, and seen to be a true meningioma; the bony tumour itself was seen to be an osteoma associated with meningioma (see Figure VIII).

Since the operation the patient's condition has remained satisfactory, and his headaches have disappeared. He complains, however, of pulsations and feelings of pressure if he stoops down or exerts himself. These are probably due to the absence of bone in the frontal region. At one time it was thought that a bone graft might be necessary to fill in this



FIGURE X.
View of patient from in front, two and a half years after operation.

gap; but when he was examined recently the pulsations in this vicinity had become very much less, and the area felt quite firm. It would appear that some new bone formation was taking place from the *dura mater* or pericranium, which



FIGURE XI.
View of patient from left side, two and a half years after operation.

might have been reflected from the scalp flap, and this is confirmed on reference to the X-ray film taken six months ago (see Figure IX), in which evidence of regeneration of bone is visible. At the same time, a small quantity of air was again introduced into the ventricular system by

encephalography, and the shape of the anterior portions of the lateral ventricles appeared to be within normal limits. No evidence of increased intracranial pressure was found, and no abnormal constituents were present in the cerebrospinal fluid. Thus further operative interference was not considered to be indicated. The post-operative and the present appearance of the patient are illustrated in Figures X and XI.

Comment.

This case is reported chiefly on account of the large size to which the tumour had grown before its removal was sought, and also to demonstrate how these cases can be dealt with by multiple stage procedures. A series of somewhat similar cases has been reported by Dandy,⁽¹⁾ in which it was found necessary to remove portions of the longitudinal sinus in order to eradicate the growth completely. In his series considerably greater portion of the growth appears to have extended inwardly than in the present case, in which it was possible to maintain the integrity of the longitudinal sinus.

Reference.

(1) W. E. Dandy: "Removal of the Longitudinal Sinus Involved in Tumours", *Archives of Surgery*, Volume XLi, Number 2, August, 1940, page 244.

Reviews.

A SUMMARY OF MEDICINE.

In "A Pocket Medicine", by G. E. Beaumont, of Middlesex Hospital, a vast amount of medical knowledge has been condensed into the small space of 195 pages.¹ The book is a summary of "Medicine—Essentials for Practitioners and Students", which is a recognized text-book by the same author, and is set out on the methodical systematic plan familiar to readers of that work.

Medicine is not a subject which lends itself kindly to abbreviation, and for many years our best teachers have deplored the reprehensible practice of students attempting "short-cut" methods in their approach to its study. Clinical work has always been the only sound basis for medical knowledge, and should be correlated with reading from a standard text-book of medicine. No summary can hope to convey to a student an accurate impression of disease: it can only refresh his memory. This fact is obviously in the author's mind, for he notes in the preface: "This small book has been written for the use of medical students when working in hospital, and while waiting and travelling." If used in this limited sphere the book may be of great help to students, for in it can be found some facts concerning the great majority of disease conditions they are likely to encounter. The practice, however, of employing such a book for "cramming" cannot be too strongly condemned.

In conclusion, we think that Samuel Johnson's statement from his "Dictionary of the English Language" published in 1755 and quoted immediately after the title page sums up the book admirably: "In this book, when it shall be found that much is omitted, let it not be forgotten that much likewise is performed."

PROBLEMS OF PROCREATION.

E. C. HAMBLEM, in "Facts for Childless Couples", has aimed at bridging the gulf between the medical world and the lay public.²

Facts essential for the understanding of the enormous problems of procreation have been presented in a manner readily assimilable by the lay mind. Suggested methods of investigation and treatment of these problems should prove of real value to physicians in approaching this all-important aspect of medicine.

¹ "A Pocket Medicine", by G. E. Beaumont, M.A., D.M. (Oxon.), F.R.C.P., D.P.H. (London): 1942. London: J. and A. Churchill, Limited. 7½" x 4½", pp. 208. Price: 10s. 6d. net.

² "Facts for Childless Couples", by E. C. Hamblem, M.D.: First Edition, 1942. Springfield: Charles C. Thomas, London: Baillière, Tindall and Cox. 7½" x 5", pp. 113, with illustrations. Price: \$2.00, post paid.

The Medical Journal of Australia

SATURDAY, FEBRUARY 27, 1943.

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THE HEALTH OF BRITAIN.

It was as recently as July 11, 1942, that a report of the Ministry of Health of Great Britain was discussed in these columns. The document considered on that occasion covered a period of two years—April 1, 1939, to March 31, 1941. Even then the report was not presented to Parliament until February, 1942—a delay which need not occasion great surprise, since the country is engaged in a war and its very existence is at stake. Another report has reached Australian shores and this time the Ministry of Health deals with the period from April 1, 1941, to March 31, 1942; the report was presented to Parliament in October, 1942. The present document has the same general interest as any of its predecessors; but in addition it gives an indication of how the nation is standing up to the strain of war. Many of the problems and difficulties that have arisen in Great Britain are by no means unknown in Australia; some of them are problems of social medicine and the approach to their solution should not differ greatly in the two countries. The Minister of Health in the introductory letter of the report to the King's Most Excellent Majesty points out that the year 1941-1942 was less eventful than the previous two-year period and was one mainly of consolidation and adjustment. Comparative freedom from air attack afforded time for review and also opportunity to bring the emergency services to a higher state of efficiency. On the other hand the recruitment of still more men for the Forces, the need for increased war production, the call-up of women, and the passing from defence to preparations for offence have brought their own problems. The Minister then adds that the health services and the public have had to manage with fewer doctors and dentists and pharmacists, and with substitutes for some of the drugs and other supplies to which they have been accustomed—but "the spirit of cooperation for the common good . . . has triumphed over difficulties". Almost can we hear Mr. John Curtin speaking these words to the people of Australia. But encouraging though they are, they are not words with which the people

either of Britain or of the Australian Commonwealth should rest content. Success in one field of activity should act as a spur to effort in other directions and each success gained will yield its full value only when it is followed up and given a practical application. In the last paragraph of the present report this idea is put forward; we read that war has one redeeming feature—"it quickens the pace of innovation, of trial and error, provides new fields for experiment". When peace comes it will be possible to make "constructive use" of the experience gained.

The first impression gained from perusal of this report is that the Ministry of Health is fully alive to its responsibilities; the second is that the health of Great Britain is in the circumstances wonderfully good. Most satisfactory of all is the statement that there are signs of a changed attitude towards health in the minds of the public. There is so much discussion on fitness, on diet and on costing that "as a popular topic of conversation Mr. Jones's operation is beginning to give place to the ways in which the Robinson family has been kept consistently well ever since the war began". There is no doubt that as health is more widely understood, it will be more generally sought. Food rationing and indeed a certain amount of food shortage may be a blessing rather than a hardship if because of them people turn more attention to the art of cooking, to food values and a balanced diet. Apparently the Ministry of Health in the Old Country tries to determine whether the population is suffering in any degree from malnutrition. We read that observations are carried out in hospitals, reports are obtained from medical officers of health, and special mobile teams make nutritional surveys in selected areas. The teams work in close cooperation with the Special Department for Research on the Assessment of Nutrition which has been set up at the University of Oxford. These surveys are supported by the Rockefeller Foundation, the Medical Research Council and the Ministry of Health. It would be interesting to have more detailed information about these surveys; but the present report is only a "summary report", being reduced in size presumably on account of the need to conserve supplies of paper. What the reader is told is that medical officers supplied by the International Health Division of the Rockefeller Foundation in their rapid assessment on selected groups have been unable to discover anything disquieting. In some districts the inquiries have shown, if anything, that from the nutritional standpoint the health of the people has improved. It should be pointed out that all along the line the Government has adopted the policy that, no matter how drastically the supplies of essential foodstuffs have to be curtailed, certain sections of the community must at all costs be guarded against under-nourishment. These comprise expectant and nursing mothers and children under five years of age, whether they are at home or in residential institutions. As this subject has been mentioned in these columns in a recent issue in connexion with the occurrence of scurvy and in regard to vitamin C, no further discussion on this point is necessary at the moment. In order to provide vitamins A and D, cod liver oil has been made available free or at cheap rates for children under five years of age. In regard to milk and eggs, it must be pointed out that special arrangements are made. Though milk may be scarce, the expectant or

nursing mother has under the National Milk Scheme first call on a daily pint, or if her condition is abnormal on a daily two pints. The bottle-fed baby may receive up to two pints a day free or at a reduced price, and a child under five years of age may receive one pint on the same terms. These measures are much the same as those mentioned in the Ministry's last report; they are referred to again in this place because of their importance from the Australian point of view.

A new departure is forecast under the heading of morbidity statistics. It is stated that apart from notifiable diseases, vital statistics are much more concerned with the conditions from which people die than with those from which they suffer but do not necessarily die. Everyone will agree that investigations into morbidity can open up many avenues to the improvement of the public health, and also that hospital accommodation could be more economically planned if statistics regarding morbidity were available. Morbidity classifications are being drawn up for use in Emergency Medical Service hospitals. Presumably the collection of statistics will be extended beyond these institutions; otherwise it might be difficult to secure sufficient data for critical examination. It will also be necessary to secure the cooperation of medical practitioners. In the absence of more detailed information further comment is futile. In the *Pharmacy and Medicines Act*, 1941, two provisions having a direct bearing on public health are included. The first is a prohibition of advertisements of articles for the treatment of a number of diseases, such as Bright's disease, epilepsy, diabetes and tuberculosis, or for the production of abortion. The second puts a stop to the sale of "secret remedies"; it actually eliminates them, for it prohibits the sale of any substance as a medicine unless the composition is disclosed on the counter or label. This provision does not apply to medicines made up on individual prescriptions.

The Ministry's activities that can be included under the heading of social medicine cover a wide field; some of them are concerned with maternal and child welfare and are discussed under the heading "Mothers and Children". Housing and rents come in for some prominence. The Central Housing Advisory Committee met in March, 1942, for the first time since the outbreak of war to deal with the problems of post-war reconstruction. It has set up a number of subcommittees and included in these is one which will make recommendations about the design, planning, layout, standards of construction and equipment of dwellings for the people throughout the country. It is to be noted that repairs in areas heavily damaged by large-scale air raids have gone considerably beyond what is described as first-aid repairs. According to the *Landlord and Tenant (War Damage) (Amendment) Act*, 1941, rents of houses let on short tenancies may be suspended or reduced if the houses are unfit for use because of war damage. It is the duty of the local authority to certify that a house has been repaired sufficiently to justify the full rent being charged. These certificates are under review every three months and may be revoked if the works of repair have not been reasonably maintained. The control of rents has been enforced in regard to all dwelling houses with a rateable value below a fixed annual sum. There are penalty clauses for the charging of excessive rent and a tenant cannot be evicted without an order from the court. That these

acts have been administered by the Ministry of Health is of interest; it is also logical, because health cannot be maintained in unhygienic surroundings. Allied to these activities of the Ministry of Health are those connected with air-raid shelters, rest centres for the homeless and hostels for aged homeless persons who cannot be billeted or make their own arrangements with relatives or friends. Under the heading of mothers and children are sections of the report dealing with maternal and infant welfare services, wartime nurseries, emergency maternity homes, residential nurseries and hostels. Social centres established in reception areas are doing useful work. Local authorities by March, 1942, had set up 663 of these centres and "occupational centres" were attached to 466 of them to meet the demands of women that they should have the opportunity of doing some useful work when they met together. The view is expressed that a wider conception of social service has been gaining ground in Great Britain. Evacuation of certain areas showed "perhaps more than any other of the emergencies of war" that far too many women failed to accept or to understand their responsibilities either as mothers or as housewives. The taking of the first principles of health and hygiene right into the home is thought to have done much to remedy this failure. This is no doubt correct and to it must almost certainly be added the fact that, facing common dangers and privations, people have naturally helped one another to an extent not known before the war. This is true not only in matters of health but in the whole life of the nation. And it will apply to Australia as well as to Great Britain.

Current Comment.

VIRUS-TYPE PNEUMONIA.

REFERENCES to "virus-type pneumonia" have been seen rather frequently of late in medical literature. B. E. Goodrich and Henry A. Bradford have published¹ an account of 52 cases of illness which they claim to have diagnosed by clinical means as "virus-type pneumonia". They state that epidemics of this respiratory disease have been reported since 1935, when Bowen recorded some observations on 89 cases of pneumonitis occurring among troops stationed in Hawaii. The disease was mild and characterized by leucopenia, cough, spotty shadows in skiagrams, few physical signs other than râles; and no definite causal organism was recovered from the sputum. Bowen believed that the occurrence of pneumonitis was a complication of influenza. Other writers have recorded similar findings and have drawn attention to the infectivity of the disease. In 1938 Reimann described a respiratory disease characterized in some instances by pneumonia and by recovery of a pneumonotropic virus. Since then, the disease is said to have been produced experimentally, in ferrets and in the mongoose, by intranasal inoculation with throat washings. There is at present considerable confusion in the literature of this type or types of atypical pneumonia. As Goodrich and Bradford point out, this is in no wise lessened by the many anatomically descriptive names that have been applied to it; such as "acute diffuse bronchiolitis", "acute interstitial pneumonia", "acute pneumonitis", "atypical pneumonia", "broncho pneumonia", "disseminated focal pneumonia", "influenzal pneumonitis", "benign broncho pulmonary inflammation" and others. These names suggest the protean character of the disease—

¹ *The American Journal of the Medical Sciences*, August, 1942.

an attribute which obviously makes clear description and recognition difficult. In spite of this, Goodrich and Bradford believe that "virus-type pneumonia" can be recognized clinically, is becoming more common and is frequently encountered. They state that since 1938, this condition has been seen at the Henry Ford Hospital almost one-fifth as often as pneumococcus pneumonia.

They describe 52 consecutive cases, diagnosed by clinical observation. These they divide into three groups: 25 patients were mildly ill, 17 moderately ill and 10 severely ill. The onset was generally insidious, with cough, chilliness, headache and malaise. Two individuals in whom joint pains occurred were suspected of having rheumatic infection. Muco-purulent sputum was frequently present; rusty sputum was uncommon. Chest findings by auscultation were often insignificant and lagged behind changes found on radiological examination. Abundant moist râles developed at some stage in almost every case. Tubular or bronchial breathing was rare. A variable degree of fever was present on the patient's admission to hospital; high plateaus of fever were unusual. The temperature varied widely in 24-hour periods. Relative bradycardia occurred in more than half of these patients. Remissions of temperature occurred in about one-half of the patients who were very ill. As to laboratory findings, in 55% of the cases the leucocyte count on the patient's admission to hospital was below 8,000 per cubic millimetre. Neutrophile cell percentages were within normal range in the early days of the illness. No significant identifiable organisms were isolated from the sputum. Blood cultures were obtained at least once in each case; in no instance were any organisms grown. The authors mention the excellent descriptions of the variety of X-ray changes published by Kornblum and Reimann, by Kneeland and Smetana, and by Longcope. In their own cases, the types of change included "small patchy densities, fine hazing, often involving half of a lung field, a widespread miliary infiltration or a dense area occupying a portion of the lung". When exposure to infection was known to have occurred, incubation periods of from ten to twenty-six days were noted.

Goodrich and Bradford admit that their group of cases is presented without any direct evidence that a virus was the causal organism. This is a very weak point in their thesis. Still, a new field of medical knowledge is sometimes rather like a jig-saw puzzle, published, so to speak, in serial form at irregular intervals. It takes a long time before the picture is complete; indeed it may never be complete. A report such as this one is of value, for it stimulates the recognition of atypical pneumonia. The sulphonamide drugs, including sulphapyridine, sulphathiazole and sulphadiazine, are without effect in treatment. In doubtful cases, a trial of these drugs may help the diagnosis. But they may be actually harmful in a disease in which leucopenia is apt to occur. The combination of a severe virus infection and massive doses of sulphonamides might well have a serious effect on the blood picture or on the reticulo-endothelial system. The initial radiological appearance may closely simulate that of acute exudative tuberculosis. In one case mentioned by Goodrich and Bradford, pneumothorax treatment was actually commenced; a diagnosis of virus-type pneumonia was made later. These authors believe that the increasing incidence and severity of virus-type pneumonia indicate a rising virulence of the aetiological agent.

COTTON SUTURE MATERIAL.

COTTON has been used as suture material by a number of surgeons; but its possibilities in this field do not seem to have been fully explored. Here is a strong, cheap, readily available material, requiring no special preparation beyond simple sterilization by boiling. It would be a boon indeed if it could be shown that its qualities were not inferior to those of expensive materials that demand the greatest care in preparation and sterilization. A plea for the more extensive use of cotton suture material in

wartime is made by A. T. Andreason.¹ He points out that Halsted first drew attention to the value of cotton as suture material in 1913. It has since been used in various quarters, from which the most recent reports tend to show that in many respects it more closely approaches the ideal than catgut does. Catgut seems to hold its place as a suture material because it is absorbable. Non-absorbable materials are generally regarded as objectionable because they remain as foreign bodies. But catgut is also a foreign body, and one that will excite considerable reaction because of its absorbability. "It has been shown experimentally that when catgut, silk, linen and cotton were carefully graded for the reaction they caused in tissues, catgut caused most reaction with the slowest healing and after it in order with less and less reaction and quicker healing were linen, silk and cotton. . . ." Andreason states that the ideal suture material "should be pliable, easily prepared, easily available, inexpensive, should tie securely, should not excite tissue reaction, should maintain its strength for a predictable length of time in all patients, should cause no tendency to infection or sinus formation". In his experience cotton fulfils these requirements better than any other material. It is pliable; it can be bought in any shopping centre; it can be sterilized by boiling; it increases in tensile strength after boiling; it is cheap; it has a secure knot when properly tied (the ends can be cut right on the knot without fear of slipping); and it "has proved to be one of the most inert suturing materials. . . ." When placed in the tissues cotton loses 10% of its strength in ten days; whereas catgut loses 50% to 70% in the same period. Furthermore the rate of absorption of catgut varies "in an unpredictable manner". Andreason now uses cotton exclusively in his surgical work, including intestinal anastomosis and suture of kidney, ureter and bladder. He uses six-ply "number 40" thread, doubling it when extra strength is required. The thread should be black; for white thread soon becomes invisible when stained with blood. Sutures should be pulled no more tightly than will be necessary to insure approximation. If the suture is too tight oedema will occur and the suture will cut through. If a catgut suture is too tight the results are not so serious, because catgut soon loses its strength. Cotton and catgut sutures should not be used side by side. The first turn of the knot of a cotton suture should be tightened by a steady gentle pull with the forefingers in opposite directions. This first turn will hold easily while the second turn is being taken, unless the thread has become slippery in fat.

Andreason does not mention the use of cotton in the operative treatment of hernia. It is in this field of surgery especially that an ideal suture material is required. However, he shows that cotton is a satisfactory substitute for catgut and he makes out a good case for the preferential use of cotton. His views are worthy of respect.

THE REMOVAL OF PLASTER CASTS.

SEVERAL methods of simplifying the removal of plaster casts from limbs have been described recently. The following, which has been practised by A. T. Andreason, is commended for its simplicity.² A piece of rubber tubing, about eight millimetres in diameter, greased with "Vaseline", is laid along the limb at the site chosen for the slit, and the plaster bandage is applied over it. When the plaster has dried, the projecting ends of the tubing are pulled tightly, to narrow the lumen, and the tubing is eased out, a tunnel being left that will take the toe of the plaster shears. Andreason states that the bends and angles are easy to cut when this method is used, and damage to the skin is avoided. The tubing should be long enough to reach from axilla to toe, with twelve inches to spare. There is no need to cut short pieces for short casts. In these days, when immobilization of limbs in plaster of Paris is so widely used, this safe and simple method of rapid removal of a cast should be more widely used.

¹ *The Indian Medical Gazette*, December, 1942.

² *The Indian Medical Gazette*, December, 1942.

Abstracts from Medical Literature.

GYNÆCOLOGY.

The Use of Stilbæstrol in Essential Dysmenorrhœa.

SOMMER H. STURGIS (*The New England Journal of Medicine*, March 5, 1942) has previously reported that relief from cramps in essential dysmenorrhœa can be consistently obtained by treatment with œstradiol benzoate. He now reports the results of the oral administration of stilbæstrol to the same group of patients who responded previously to œstradiol given subcutaneously. When a daily dose of stilbæstrol was given by mouth for twenty days, it had an effect comparable to that produced by œstradiol benzoate. Nineteen patients were given a dose of one or two milligrammes. Altogether 79 courses of treatment were given, and in 59 of these the cramps were eliminated. The author thinks that these figures do not give a true indication of the effectiveness of the drug, for the failures were caused by misapplication rather than by inefficiency of the medication. To obtain consistent results the start of the treatment should be calculated from an accurate record of at least eight consecutive cycles. Medication should be started at least three weeks before the possible onset of the shortest previously recorded cycle length for the patient. The author explains that this therapy primarily inhibits the follicle-stimulating hormone fraction of the pituitary gland and secondarily suppresses the growth of ovarian follicles, and hence ovulation during the time that treatment is given. After conclusion of a course of treatment the normal pituitary ovarian cycle is reestablished, with the invariable recurrence in about one month, if no more of the stilbæstrol is given, of typical dysmenorrhœa. In about 20% of cases treatment has to be discontinued on account of the appearance of gastrointestinal symptoms.

Transverse Plication of the Rectum for the Reduction of Large Rectoceles.

W. T. DANNREUTHER (*American Journal of Obstetrics and Gynecology*, February, 1942) points out that post-operative protrusion of a rectocele through the vulvar orifice after a vaginal operation is a disappointment to the patient and an embarrassment to the operator. He advocates the transverse plication of the rectum before the usual repair in advanced cases of rectocele. This procedure has given the author excellent results and he discusses his technique in full detail.

Cervical Stump Carcinoma.

S. T. CANTRIL AND FRANK BUSCHKE (*Western Journal of Surgery, Obstetrics and Gynecology*, September, 1942) present a review of 223 cases of carcinoma of the cervix; in 14 cases the growth was in the cervical stump, subtotal hysterectomy having been performed for conditions other than carcinoma.

The review covers the period from 1935 "through 1941"; it does not refer to cases in which subtotal hysterectomy had been performed in the presence of an undiagnosed but already established cancer of the cervix. The authors conclude that cancer of the cervical stump is not common. When it arises in the stump it is more difficult to treat than cancer of the cervix when the corpus is intact, and the treatment carries with it an added risk of local necrosis, proctitis and fistula. However, the prognosis is "not too unfavourable". They believe that the risk associated with the performance of total hysterectomy is greater than that of the probable occurrence of carcinoma in the cervical stump after subtotal hysterectomy, provided that the cervix is otherwise healthy. Insufficient attention, however, is paid to the condition of the cervix before subtotal hysterectomy is carried out. Before operation, the cervix should be carefully inspected, and time should be allowed for the microscopic examination of paraffin sections of material taken from any suspected area. Pre-operative curettage of the endocervical and endometrial canal will often give valuable information. Total hysterectomy is necessary if the cervix is badly lacerated or eroded, when the presence of carcinoma has been excluded. The authors advise that when subtotal hysterectomy is carried out, sections of the uterus should be made for inspection "at the operating table". "When a cancer of the cervix is discovered in this manner, there is little to be gained by an attempt to complete the operation."

Amenorrhœa.

G. TONDEK (*The Journal of the American Medical Association*, February 28, 1942) describes a simplified hormonal treatment of amenorrhœa. In primary and castration amenorrhœa 0.5 to 1.0 milligramme of œstradiol benzoate and 10 milligrammes of progesterone are injected every day in one syringe intragluteally for five days. In secondary amenorrhœa 10 milligrammes of progesterone are given intragluteally every day for five days, or the treatment may be shortened by giving 25 milligrammes on two successive days. Poor results were obtained by giving 50 milligrammes in one dose. In primary amenorrhœa and secondary amenorrhœa the dose of 50 milligrammes of progesterone is the optimum dose; lesser doses were effective in only a small percentage of cases. The above treatment induced menstrual bleeding in 85% of cases of secondary and in 100% of cases of primary amenorrhœa, but in most instances only one bleeding occurred as a result of the treatment.

Mistakes in the Treatment of Carcinoma of the Cervix.

A. W. DIDDLE (*Western Journal of Surgery, Obstetrics and Gynecology*, September, 1942) discusses errors in the treatment and management of carcinoma of the cervix. He bases his criticism on the clinical records of 107 patients, of whom only eight had survived without a recurrence of the disease at the end of five years. Among 67 consecutive patients seen in 1941, the average length of time lost between the first examination and the institution of adequate treatment was

2-4 months. In several cases, in which the presenting symptom was abnormal hæmorrhage *per vaginam*, the attending physician failed to make a vaginal examination. The author states that the more common types of inadequate treatment are the following: (i) local treatment with douches, tampons *et cetera*, (ii) cauterization of the cervix, (iii) amputation of the cervix, (iv) subtotal and total hysterectomy, (v) treatment with inadequate doses of X rays and radium, either separately or in combination. He urges the necessity for early institution of proper and adequate therapy if good results are to be obtained in carcinoma of the cervix.

The Treatment of Functional Uterine Hæmorrhage with the Anti-Menorrhagic Factor.

A. M. SUTHERLAND (*The Journal of Obstetrics and Gynecology of the British Empire*, April, 1942) reports on a clinical investigation in which fifty patients suffering from functional uterine hæmorrhage were treated with a non-saponifiable lipid factor in the liver. The work was carried out at the Royal Samaritan Hospital for Women and the preparation used was prepared by Armour and is called "Anti-Menorrhagic Factor Granules". Success was obtained in 60% of cases. Ill effects were noted in two instances in the form of a digestive upset and cramp-like abdominal pains. The treatment was found to be most successful in young patients and less effective as the age of the patient increased; hence an unselected series containing the average number of menopausal patients would show a small percentage of complete cures.

Cæsarean Section in Massachusetts.

R. L. DENORMANDIE (*The New England Journal of Medicine*, October 8, 1942) presents the results of a study of 11,030 Cæsarean sections and 87 hysterotomies carried out in Massachusetts in the period 1937 to 1941. The study was sponsored by the Massachusetts Department of Public Health and the Section of Obstetrics and Gynecology of the Massachusetts Medical Society. Data were obtained from questionnaires sent to all licensed maternity hospitals, the staffs of which with few exceptions cooperated well. The percentage of maternal deaths was 2.46. The author points out that although this figure is low, it has to be taken into account that Cæsarean section figured in nearly 20% of the deaths reported in a study of maternal mortality. Nearly 40% of the deaths that occurred were due to sepsis; this shows that there was an error either in technique or in the choice of the method of delivery. Eleven deaths were stated to be due to the anaesthesia. Spinal anaesthesia was used in 1,413 cases; this figure shows an increase in the use of this type of anaesthesia. "The widespread use of local anaesthesia" has never been favourably received in Massachusetts for Cæsarean sections. The routine use of sulphamidamide in emergency Cæsarean sections in which infection is a possibility may ultimately much reduce the number of deaths from sepsis. The indications for Cæsarean section, as stated in the replies to the questionnaires, were sometimes

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insufficient and in a few cases "bizarre"; in two cases a grave mistake was made because the diagnosis was incorrect. Caesarean section provides an easy way out of a difficulty for the doctor, but it often has serious consequences for the mother in future pregnancies; more care in assessing the indications in each case is necessary. The author holds that superficially the statistics indicate that the results have been beyond criticism; but deeper analysis shows that many unnecessary sections have been performed. Because of this fact, the number of "repeat" sections will increase and will always be associated with a certain number of deaths. Deaths connected with the performance of Caesarean section are "a potent factor" in keeping the State maternal mortality rate at too high a level.

OBSTETRICS.

The Problem of Unsuspected Tuberculosis in Pregnancy.

C. WESLEY EISELE, W. TUCKER, R. VINES AND J. BATTY (*American Journal of Obstetrics and Gynecology*, August, 1942) have investigated 10,968 women who were unselected except that those known to have tuberculosis were excluded and those found to have clinically important but unsuspected tuberculosis were also excluded. Tuberculosis was found in 1% of patients examined and 0.7% of the infections were shown to be active. The method adopted was a routine chest fluoroscopic examination followed by the preparation of skiagrams in all cases in which definite or suspected pathological change was present in the lungs. In the opinions of the authors this is a satisfactory method, provided it is carried out by an experienced examiner. It is pointed out that, although tuberculosis has gone from first place to seventh among the causes of death in the general population, for young women of the child-bearing age it is still first as a cause of death.

The Eclamptic Phenomenon and Placental Ischaemia.

JAMES YOUNG (*The Journal of Obstetrics and Gynecology of the British Empire*, June, 1942) further elaborates his theory as to the causation of toxæmia. He is of the opinion that pregnancy toxæmia is preceded and determined by an abortion factor which operates by causing an interference with the maternal circulation in the placenta. There are two alternative mechanisms. In one the stasis or complete arrest of the blood flow to localized regions results in localized infarction, provided the child has not been killed by the initial lesion. In the second mechanism the vascular changes are widespread throughout the decidua. Retro-placental bleeding is an extreme expression of this widespread vascular disturbance; in many instances both mechanisms are found to have been in operation in the same placenta. Toxæmia develops subsequent to the placental degeneration. Its severity is

determined by the extent of the placental involvement and the survival of the *fœtus in utero*. At least half of the placenta may be damaged before fetal death occurs. The relationship of toxæmia to the initial stages of the degenerative changes explains how after early fetal death or delivery the full extent of the placental involvement may not be visible. Concealed accidental hemorrhage may cause extreme toxæmia, but yet the placenta may not show any obvious changes owing to the immediate fetal death. There is an analogy between the crushed muscle syndrome with its anuria and renal cortical necrosis and that of concealed accidental hemorrhage associated with anuria; in both there is tubular failure which is rarely present in the eclamptic phenomenon, but is superimposed by a toxic agent of extraplacental origin.

Caesarean Section under Spinal Analgesia.

R. C. THOMAS (*The Journal of Obstetrics and Gynecology of the British Empire*, June, 1942) reports on a series of 121 Caesarean sections performed under spinal anaesthesia. The author points out the advantages and the disadvantages of this method. In his series of patients there were no deaths. Heavy "Percaine" was used. The author lays great stress on the fact that three-quarters of a grain of ephedrine should be administered forty-five minutes before the operation. If the operation is being done for placenta praevia, blood should always be available in the theatre and the author believes in prompt and efficient packing of the lower uterine segment in these cases of placenta praevia. The use of spinal anaesthesia for patients who are "bad risks" is not only an added risk to the patient, but brings spinal anaesthesia into disrepute. As regards the post-operative complications, one patient had bronchitis and another bronchopneumonia; no deaths were attributable to the anaesthetic.

Utopian Obstetrics.

R. A. BARTHOLOMEW's presidential address to the South Atlantic Association of Obstetricians and Gynecologists is published (*American Journal of Obstetrics and Gynecology*, October, 1942) under the heading "Utopian Obstetrics". The author hopes that in the period of reconstruction after the war something will be done to give the obstetrician a more abundant life. There is deep significance in the increase in coronary disease by 240% amongst doctors. The greater strain and responsibility, irregular rest and eating, greater physical, mental and emotional hazards play an important part in this increase. To counteract these tendencies and these influences, emphasis is put on moderation, equanimity, and the conservation of energy through the middle and later decades of life. The only compensation for normal fatigue is rest. The obstetrician's life as lived at present consists of broken rest, a struggle to keep appointments with the inevitable anxiety of awaiting the call and complete absence of any proper relaxation. From the patient's point of view cancelled visits may lead to a toxæmia, and a tired medical attendant is not

an alert one. There is need of some practical workable compromise between the laity's concept of an attendant who must be available not only around the clock, but also around the calendar, and a plan of obstetric care which will assure the obstetrician definite hours of sleep, recreation and regular vacations. It would appear that the solution lies in forming a group the nucleus of which would be one or two men who control a considerable volume of work. A group of four could be arranged in shifts, two doing rounds and hospital work, the other two doing the consulting work. The shifts would vary from day to day and week to week. The patient would come into contact with each member of the group. The advantages would be that times of appointment would be kept, the doctor would not be rushed, the doctor would be more wide awake and the patient would really have the advantage of a consultant. The author believes that an effort must be made to secure a better adjustment between work to be done and life to be lived.

Solution of Posterior Pituitary Sulphonate in Labour.

WILLIAM J. DIECKMANN AND MORRIS S. KHARASCH (*American Journal of Obstetrics and Gynecology*, November, 1942) discuss a new form of posterior pituitary substance—posterior pituitary sulphonate. This new form was originated to obviate the dangers of the use of posterior pituitary extract at present being used—the sudden tonic contraction of the uterus with consequent fetal distress and possibility of uterine rupture. Cases of uterine rupture are quoted after the use of 0.12 and 0.3 cubic centimetre of posterior pituitary solution. The new form, called briefly "pit-sulphonate", has an acid reaction and the pituitary hormone is not liberated until the solution becomes alkaline, so that with subcutaneous or intramuscular injection the hormone is liberated much more slowly than when other forms are used. There is a very small amount of active hormone in the compound, and if large quantities are injected this free hormone will mask the response, giving the usual early pituitrin reaction. Experiments show that the oxytocic content of the compound is equal to that of pituitrin. Its anti-diuretic effect is more marked than the same strength of the standard solution, because it is liberated slowly, and its action is thus prolonged. When it is used on a pregnant uterus the latent period for pituitary sulphonate has a mean of 12.8 minutes, whilst that for a solution of posterior pituitary extract is 5.2 minutes. The graphs show a short latent period and uterine tetany with posterior pituitary extract, but with pituitary sulphonate the latent period is prolonged, increased tonus is present, but definite contractions always occur with no evidence of any tetany. The new substance has on an average a latent period of ten to twenty minutes, with the contractions reaching their maximum about thirty to fifty minutes after injection. Doses of 0.2 to 0.3 cubic centimetre are used for three to five doses at sixty minute intervals for induction of labour. In none of the cases was there any obvious fetal distress, fetal death or injury to fetus or mother.

Public Health.

PARLIAMENTARY JOINT COMMITTEE ON SOCIAL SECURITY.

THE Parliamentary Joint Committee on Social Security was appointed "to inquire into and from time to time report upon ways and means of improving social and living conditions of the people of Australia and of rectifying anomalies in existing legislation". The personnel of the committee is as follows: Mr. H. C. Barnard (Chairman), Senator Cooper (Deputy Chairman), Senator Arnold, Mr. Maurice Blackburn, Colonel R. S. Ryan and the Honourable J. A. Perkins.

In continuation of the accounts of evidence given before the committee that have been published in previous issues, we publish this week summaries of evidence by Major-General F. A. Maguire and Dr. S. L. Cameron.

MAJOR-GENERAL F. A. MAGUIRE, having been sworn, said that he had prepared no written statement for the committee; but he brought before the notice of its members a paper which he had read at the fourth session of the Australasian Medical Congress (British Medical Association) at Hobart in 1934, and which had been published in the *Transactions* of that congress at page 162. The subject of the paper was "A Plea for the Organization of the National Medical Services for War". Major-General Maguire then referred to the *questionnaire* that had been sent out to witnesses, and discussed in order the questions in it.

Major-General Maguire said that he felt strongly that there was one point that had not been brought out in any *questionnaires* on the subject that had been sent out, and that was that the first consideration in any scheme must be the patient, who must be given a first-class medical service. It was essential to have that as a primary axiom, in the formulation of any medical service, before doctors, the Government or anyone else. If that was done, all the rest would more or less fall into line. Major-General Maguire thought that no one of the three schemes put forward fitted into the requirements of the Commonwealth; between the three of them the truth lay. The National Health and Medical Research Council scheme struck him as being bureaucratic; there was a great deal in it, but it had been drawn up mainly by men holding full-time departmental jobs who were not in contact with medical practice. It was comprehensive, but it was too fixed and run too much as a government department. There were several essentials for a good medical service. In the first place, it must maintain the present high standard of medical education, so that doctors were good doctors. An Australian medical graduate at the present time stood high in the estimation of the medical world generally. In the second place, it had to be remembered that the backbone of any medical service was the general practitioner, no matter how many hospitals and how many specialist and ancillary services were set up. The general practitioner maintained his position and the confidence of the people owing to the fact that he carried out a family practice; it was the personal touch between the general practitioner and the family that made medical practice worthwhile. The National Health and Medical Research Council's scheme for posting men here and there and moving them about got too far away from the essential continuity of service, which gave the family in the long run the best and most efficient service. A national medical service on the lines embodied by the three reports which were mentioned in the *questionnaire* was essential; but it was also essential to maintain two other things—the right of private practice for those doctors who wished it, and the patient's right of freedom of choice of doctor. The greatest power that doctors had was the patient's faith in them; therefore patients must have a certain amount of choice. The right of private practice would be limited; but so long as it was there, the people would feel that they could still have faith in their chosen doctor.

Major-General Maguire went on to say that in the establishment of a national medical service three points had to be borne in mind. The first was that no doctor's list of patients should be over-crowded; that was where the panel system in England fell down badly. While he was in England, Major-General Maguire felt that the doctor was over-worked and that he had very little time to examine his patients and make a correct diagnosis. The first essential in the practice of medicine and surgery was a correct diagnosis, and for that time was necessary. In answer to a question by Colonel Ryan, Major-General Maguire said that if a doctor was to give first-class service, the limit to the number of patients on his list was 1,500;

that was a low figure. The second point to be borne in mind in the establishment of a national medical service was that the doctor must receive adequate remuneration, so that he was relieved of the ordinary worries. The third point was that there must be available to him and to his patients good hospital facilities, and those should include adequate ancillary services (X-ray and pathological investigations *et cetera*) and specialist opinion when required. Patients should not have the right to go directly to specialists; they should go first to a general practitioner, who could recommend one, two or three specialists. In those circumstances a doctor would realize his own limitations and obtain specialist opinion when required. Those were the general principles on which the organization could be built.

Referring to administration, Major-General Maguire said that in a medical service more than in any other it was essential to avoid any danger of bureaucracy—of the departmental mind, which was bound by rules and regulations and had lost sight of human relations. All medical specialties were essentially human. The administration should be carried out by medical men, and by medical men who were not purely departmental in outlook. If a commission was to be the controlling body, at least one member of it should be in active practice—if necessary, part time. Major-General Maguire drew attention to the memorandum put up in 1934, in which he had emphasized throughout that at all stages of administration medical men should be attached with executive as well as with advisory functions. He had found, during twelve months' administration as Director-General of Medical Services, that he had been handicapped and hamstrung all the time by having important decisions reviewed and frustrated by laymen in various army departments. He did not suggest that no layman was competent to give an opinion; but when it was necessary to give a decision regarding professional matters, the opinion of a medical man should carry the greatest weight. The decision need not be final; the Government and the Cabinet must carry the responsibility. But medical men should have a predominant say in how a national medical service should be run. Medical men formed a large class in the community. The medical man who had been practising for some years was a strong individualist. Every day he was giving decisions which involved life and death, and he had rather firmly held opinions. To handle such men demanded someone who understood their point of view.

In answer to a question by Senator Arnold on the subject of the payment of compensation to doctors whose practices were taken over, Major-General Maguire said that he felt strongly that in general practice there was a definite goodwill, and it would be unjust not to compensate men for its loss. That did not apply to specialists, but a general practice was a business that a man had built up—a tangible asset. A strong sense of injustice would be felt by medical practitioners if they were not compensated.

In answer to questions by Colonel Ryan, Major-General Maguire said that he was not averse in principle to a salaried medical service. Provided certain safeguards were observed, he was in full sympathy with it. He considered the scheme put forward in 1941 by the Federal Council of the British Medical Association too vague; there was nothing in it. In spite of the great divergence of opinions expressed before the committee, Major-General Maguire was sure that it would be possible to find some scheme which would pay due regard to the principles on which the medical profession was working.

Mr. Perkins referred to Major-General Maguire's statement that he thought no doctor's list should contain more than 1,500 patients, and asked whether there were enough doctors in Australia. Major-General Maguire replied that he thought there were. In answer to a question concerning the present hospital system in New South Wales, Major-General Maguire said that it was a good system well administered in town and country. He would suggest the establishment of larger hospitals and the extension of the base hospital scheme, hospital construction to be along simple lines. He thought that hospitals should be built as cheaply as was compatible with good service. He did not believe in elaborate hospitals. An excellent type of hospital for Australian conditions was the pavilion type, exemplified by the 113th Australian General Hospital; he did not approve of the large hospital block that cost a million pounds. The pavilion type costing £4,000 or £5,000 could be air-conditioned and easily extended. In reply to a question as to whether or not young men would be attracted to enter a nationalized scheme, Major-General Maguire said that that would depend on the type of scheme; if it was liberal and well conducted, he thought they would. The bringing of a final scheme

down on the medical profession in one fell swoop might cause difficulties; but if it was done gradually, somewhat on the lines of the Russian series of five-year plans, it would work. Major-General Maguire said that his advice to the committee was to think twenty-five years ahead.

In reply to questions by Senator Cooper, Major-General Maguire said that he was not competent to give an opinion on the national health insurance scheme of 1938; he would need time to study it. He was, however, entirely in agreement with the principle of national insurance. It gave the little person a chance of a good service. Whether or not there should be an income limit was a political question, but he could not see why the scheme should not apply to everyone. Major-General Maguire agreed with Senator Cooper that under the present system, although the rich and poor could obtain medical attention easily, it was difficult for the middle income class; he thought that in any system of national health insurance there was no need for the income limit of £416, or indeed of any income limit, provided the right of private practice still remained. At the present time in the large hospitals exhaustive clinical inquiries were made in the case of the average indigent patient; the examination was far more complete than could be given by a general practitioner. Major-General Maguire said that he sincerely hoped that a start would be made with the introduction of some system of national medical service at once, so that it could be set in operation little by little; if some action was not taken, there would be chaos after the war. There were 3,000 doctors on active service, who would have to be fitted in somewhere, and it would be impossible to place them unless something was done quickly. Major-General Maguire also said that uniform registration throughout Australia for medical practitioners, food, drugs, medicines *et cetera* was not only advisable, but essential. Such registration was essentially a federal function, and the present arrangements were chaotic.

In answer to questions by the Chairman, Major-General Maguire said that he thought that the work of the committee should continue. He agreed with the Chairman's suggestion that after the committee had obtained the views of a number of doctors, and had crystallized its own views, it should ask representatives of the National Health and Medical Research Council and a representative body of medical men from all over Australia to attend a conference, at which those crystallized views would be put before them for discussion. Major-General Maguire advised the committee to approach the Federal Council of the British Medical Association to obtain suitable doctors, and also thought that at the conference there should be representatives of the Royal Australasian Colleges of Physicians and Surgeons and of the teaching medical schools; the other representatives could be half a dozen medical men of good standing in their profession. He thought that the suggestion that a preliminary step should be a medical survey of the whole of Australia made by a small committee of representative medical men would be helpful. He said that there was already a great deal of information available, which only required to be collated; but a medical survey would be valuable. There was, for example, the problem of the small town, the isolated community *et cetera*. Major-General Maguire thought that principles and details went together, and that whatever the principles were, they had to fit on to a skeleton of the country. It was better to lay down principles for known conditions.

DR. S. L. CAMERON, having been sworn, said that the people of Australia required an "all in" medical service, in which all branches of medicine were comprised. Such a service should be available to the unemployed, the unemployable and wage-earners. Hospital services should include general and obstetric attention. Provision should be made for the prevention of disease, especially in the country, where facilities for the treatment of tuberculosis and venereal disease were almost nil. Medical practitioners were opposed to the scheme put forward by the National Health and Medical Research Council, their main reason being that if it came into operation doctors would lose practically all their freedom. They could not find out exactly what the salary would be, though it appeared that the figure was from £900 to £1,600 per year. Dr. Cameron thought that a liberal salary; but he wondered whether he and his colleagues would have to start right at the beginning, on a very low salary. They were also wondering whether they would be moved away from their home towns. Seven or eight senior practitioners would not be needed in the town of Bathurst, for example. In the council's scheme it seemed that the backbone of the profession, the practitioners, would be receiving a low salary and the organizers would be receiving a salary of £2,000 per year. Dr. Cameron said

that he was very opposed to the scheme on financial and personal grounds; apart from that, the scheme would provide a good service for the people. But from the medical practitioners' point of view the scheme was undesirable. The scheme put forward by the Federal Council of the British Medical Association was a good scheme, but it was not sufficiently concrete, since no remuneration had been mentioned in it. It would possibly be an acceptable scheme, but it was too vague to be discussed. Referring to the New Zealand scheme, Dr. Cameron said that it should be advocated; it appeared to have been working well for more than a year. It seemed to take in everything, and in particular the obstetric part of medical practice was well looked after. As far as he and his colleagues at Bathurst were concerned, they would be prepared to consider such a scheme favourably. Under it, the doctor received a *per capita* remuneration of 15s. *per annum*, and that seemed to be a liberal income. The scheme also gave the people an excellent service. Speaking of national health insurance, Dr. Cameron said that the proposals were obsolete; they made no provision for dependants or for the unemployed, and under it the people would be no better off than they were at the present time. In any scheme, provision should be made for (a) post-graduate study for doctors, which was necessary if they were not to grow old-fashioned; (b) sickness and accident benefit for doctors; (c) an adequate pension for a set retiring age—that provision would be good for young and old practitioners. In any scheme also the doctor should be relieved of the necessity to provide a service for twenty-four hours of the day on seven days of the week; such a provision would greatly benefit the public, who would receive better service. Dr. Cameron said that he was strongly opposed to the introduction of a service during the war; the objection of himself and his colleagues was not so much a personal matter as their belief that the men on active service should have a chance to express their views. At present the population was well provided for, owing to the wealth of the working class and the various schemes in operation. The people working at the small arms factory at Bathurst received the same benefit as the friendly societies; the arrangement was not quite fair to the doctors, but they agreed to it. The workers there received incomes well above the friendly society limit, but they had wanted a scheme. At the present time, all the members of the community in Dr. Cameron's district were receiving good service, in spite of the scarcity of medical practitioners.

Dr. Cameron went on to say that other improvements that could be introduced into medical practice were provision for child and maternal welfare, better facilities for treating tuberculous patients, compulsory hospital benefit schemes and attention to national fitness. With regard to child welfare, Dr. Cameron said that at present excellent baby clinics were in existence throughout the country districts sponsored by the Country Women's Association, which were doing wonderful work. Their success depended on the type of nurse in charge of them; but in every case the sister in charge had proved to be a thoroughly reliable woman, and the work was excellent. The general public was being educated to make use of the clinics, and all classes of society went there. The school medical services were doing good work. They could be improved by more frequent examination of the children in order to detect tuberculosis and deficiency diseases. At the present time the children were examined at intervals of three or four years, and much could be missed in the intervening periods. Another necessary reform was the appointment of almoners, who would interview the parents after treatment had been prescribed and see that the treatment was carried out. It often happened that people took no notice of the doctor's recommendations. With regard to maternal welfare, Dr. Cameron said that in the country towns it was in the hands of the general practitioners; that was another strong reason for an "all in" medical service. This would be far better handled if fees had not to be arranged with private patients. Many of the poorer people put off seeing the doctor because of the cost, and that fact had been responsible for a number of tragedies. If an "all in" medical service, such as that operating in New Zealand, were introduced, Dr. Cameron thought that patients would go for attention at the proper time. As it was, many of them could not find the necessary £5 5s. and they went to "Sairey Gamps". If everyone had a free medical service, and if there were good hospitals under government control and supervision, maternal welfare would be better handled.

Dr. Cameron then spoke of tuberculosis; he said that there was room for vast improvement in that aspect of medical practice. In the country the only place for the

treatment of a tuberculous patient was in a private home or in the wards of a public hospital. A patient could be admitted to a sanatorium only after three months, and he had to have had a normal temperature for forty-eight hours before being admitted. It was very difficult to know what to do with such patients, who were a great danger to other people. In the hospital at Bathurst the number accommodated was about double what it should be, and the beds were far too close together. It would be easy for the crockery to be mixed up; sometimes junior nurses were left in charge, and they could not always be supervised. It was a most unsatisfactory state of affairs.

Referring to hospital benefit schemes, Dr. Cameron said that they were of great value and should be made the subject of a compulsory deduction from wages. Many patients who should be in hospital were not contributors to such schemes, and they fought against the expense involved in going to hospital. Such schemes were excellent, particularly for the man with a family. The present private and intermediate hospital accommodation in the country was inadequate. There was no need for free medical and surgical treatment for patients receiving good wages who were admitted to the public wards of a hospital because there was no room in a private or intermediate hospital. Many such people were receiving £8 or £10 per week, and they were put into a public ward. There was no reason why doctors should have all the worry of such patients, treat them for nothing and have to carry out all the after-treatment when they were quite in a position to pay a moderate fee. Many of the patients admitted to public wards were agreeable to the payment of a fee, and paid it. There was great need for the attachment of an almoner to the hospital, to classify properly every patient admitted. At the Bathurst hospital they had an overworked secretary and an untrained clerical staff under him. The secretary himself had not time to go into the circumstances of a patient, to decide whether he should be admitted to an intermediate or private ward. Hospitals and doctors were losing a great amount of revenue; some patients were being dishonest and entering a public ward when they were not entitled to do so.

Dr. Cameron went on to say that group practice would be an ideal arrangement, if it was workable. Its success would depend entirely on the men in each district. Unfortunately in country towns it was common to find doctors at loggerheads with each other, and for that reason group practice would not always be workable.

On the subject of physical fitness, Dr. Cameron said that he would advocate the establishment of compulsory labour camps for all youths from all classes of society at the time of their leaving school. The benefit received from the army training given to youths was in evidence already; a youth might enter camp a larrikin, and in a short time he was entirely changed.

Dr. Cameron thought that it would be an excellent thing if the Federal Council of the British Medical Association in Australia, in collaboration with a representative body of the general practitioners who were to work in the scheme, should draw up a scheme that would be economical, efficient and in the best interests of all classes of the community. In reply to Colonel Ryan, Dr. Cameron said that he thought that a salaried service had a lot in its favour in one way, and that it would be of great benefit. Asked whether he would prefer it to a capitation system of payment, Dr. Cameron said that would depend on whether the doctor was to be a government servant and where he was to be sent. If the salary was adequate and other conditions were satisfactory, he would be favourable to it. He agreed that on a capitation system, the more money that was made, the less attention the patient received, and thought that from that point of view a salaried service was much better. Colonel Ryan asked whether it would be possible for doctors to run their own salaried service under a scheme; Dr. Cameron replied that if the conditions put forward by the Government could be accepted by doctors, it would be possible. On general principles it would be a very good thing. Goodwill was important; doctors considered the goodwill of a medical practice as a negotiable asset, and they were afraid that it would simply disappear under national health insurance. That was one of their objections to national health insurance. Dr. Cameron agreed with the statement of an earlier witness that domiciliary visiting in outlying areas had almost dropped out, and not so much visiting was done in the town itself as formerly. Patients were cooperating with the doctors, and going to their surgeries instead of asking the doctors to visit them. Dr. Cameron thought that the proportion was about one visit by the doctor to every ten that were made to his surgery.

Dr. Cameron said that roughly one-third of a doctor's fees were usually bad debts; but the position was better at the present time owing to the fact that money was plentiful. The figure for bad debts was, however, still far too high. There was, moreover, a considerable amount of work that a doctor did not bother to enter on his books. Many people also did not bother to pay a doctor's bill before the lapse of six or twelve months. Dr. Cameron agreed that a system that relieved doctors of the business of collecting debts would be welcome. On the subject of people entering public wards to avoid paying intermediate or private fees, Dr. Cameron said that there was a small minority who expected that free service. If a free service was introduced, the public would know whether the service was a good one or not; people at the present time had a good deal of knowledge. There was not likely to be opposition on the part of the public to the introduction of a free service. In reply to a further question, Dr. Cameron said that he had noticed an improvement, not only in the discipline and bearing of youths in the army, but also in their physique and set-up; the improvement had been a considerable one in a short time. In answer to a question by Mr. Perkins, Dr. Cameron said that he was attending 1,000 troops; every day he took their sick parade. They went for attention to trivial ailments that they would not take to their family doctor. He thought that there was far less sickness amongst the 1,000 troops than there would be amongst 1,000 civilian patients. The calling up of doctors had made civilian doctors very short-handed. The regimental medical officer had not much to do all day, and there was a chance that junior men would be taken out of the army for periods to relieve civilian doctors, to give civilian doctors a chance to take a holiday and to help during epidemics. On the subject of hospitals, Dr. Cameron said that hospital space in his district was greatly overtaxed. They drew from a large district, but not so large as Orange or Dubbo, for example. The state of affairs regarding maternity hospitals was bad. Dr. Cameron refused to curtail the period spent in hospital by women after a confinement; they were in bed for ten days, and had one or two days to "get their legs". Dr. Cameron said that the only other doctor in Bathurst was Dr. Mulvey, and they were in agreement over the opinions expressed by Dr. Cameron in his evidence.

In answer to Senator Cooper, Dr. Cameron said that the hospital contribution schemes covered all classes. People were "medically minded", and becoming more so. Senator Cooper asked whether Dr. Cameron had found amongst the community in general a demand for a more liberal service than they were receiving at present. Dr. Cameron said that he had not discussed the matter with his patients. The contract practice rates had never been increased since 1914. Dr. Cameron said that at Bathurst they had one eye specialist, and a radiologist and a pathologist visited that city from Orange once a week. He thought that the specialist service was adequate; the only other specialists required were surgeons, obstetricians and physicians; the men in Bathurst were capable, and in the event of certain complications the patient was sent to Sydney. Asked by Senator Cooper whether he thought that a salaried service could work in with a private practitioner service running at the same time, Dr. Cameron said that a salaried service should take in all classes of the community, and in a country town there would not be much work left for a private practitioner. The situation might be different in the city. Dr. Cameron thought that in his own case, if a salaried scheme was introduced and he did not enter it, he would be left out in the cold. He thought that if such a scheme was attractive enough, doctors would enter it in a body; but they were afraid of the National Health and Medical Research Council scheme. The question of promotion was difficult. A man of his age and standing would have to be called a senior general practitioner, and it would be impossible to have too many senior practitioners. But for the future it would be an excellent scheme. Promotion should be determined on a man's time and ability; doctors did not want to be regarded as public servants. If it was run by a doctor, that would be a safeguard for promotion according to ability; but Dr. Cameron thought it would be much better if a medical committee was in charge. Dr. Cameron said that before the war he had had time for post-graduate study, but at his own expense; the possibility of a definite chance of post-graduate study would appeal to the profession. The 24-hour day seven-day week was what killed practitioners, and under a salaried scheme that should be overcome. A very satisfactory refresher course could be taken in Australia; a course of two or three weeks every two or three years was enough to keep a man up to the mark. The profession would certainly

gain by such a provision. Dr. Cameron disagreed with the suggestion in the National Health and Medical Research Council's scheme that junior men should be sent to one-man towns. A man in such a practice had to be capable of dealing with any emergency; he might be fifty miles from any other doctor, and he had to be able to do everything. That was the great drawback to the sending of men straight out of hospital to such places. It would be a bad thing for the people in one-man towns to have a young man foisted on them. A more highly qualified man could perhaps be sent there, but he would not want to stay there for too long. Senator Cooper asked whether the reason why good men would not go to small one-man towns was that they were afraid that they would not make a living there. Dr. Cameron replied that in such places rent was very low and living expenses were very low, and that one's income depended entirely on the town. Dr. Cameron thought that it would be very hard to introduce a salaried scheme all at once, but that it could probably be begun in one-man country towns. Many general practitioners preferred one-man country towns to any other form of practice. At the present time the men in many such towns were very good and could deal with any emergency. It was essential to have good men there, and the country would suffer under any scheme that did not make such a provision. Asked by Senator Cooper whether he thought it was better to extend the base hospital scheme or provide good transport, Dr. Cameron said that it depended on what was intended by the term "base hospital". He did not think that it would be satisfactory to have specialists in country hospitals. It would make general practice and specialization very difficult, but that would not be so in a salaried service—it would assist both doctor and patient.

Senator Arnold asked what was the cost of training a medical man. Dr. Cameron replied that he thought it was about £1,000 twenty years earlier. It was impossible to get any practice at a lower cost than £1,000. Senator Arnold asked whether people waiting to take up the study of medicine were not prevented by the cost involved. Dr. Cameron said that he thought that the Government had some scheme to help students, and some members of the British Medical Association were afraid of it, because the students had to enter into a contract to be in the Government's service for a certain number of years. They could be forced to start a salaried service. Dr. Cameron agreed that in effect doctors at present received a salary from lodge patients, and that under a salaried scheme the Government would be paying the whole salary. Dr. Cameron said that if a salaried scheme was introduced in which choice of district for the doctor was possible, and if the rate of salary was adequate, he would be sympathetic towards it; but a man had a right to live where he wanted to live. Dr. Cameron said that the two chief disadvantages of the National Health and Medical Research Council scheme were the moving about of doctors provided for and the fact that the administrators received more salary than the men doing the work. In answer to a further question, Dr. Cameron said that a doctor could elect to practise in a place without buying a practice (the procedure was known as "squatting"); but it was much more expensive than buying a practice. He agreed with Senator Arnold that at present a doctor's choice of a place to practise was limited by the fact that an opening was or was not available. Senator Arnold asked whether the situation was much the same as it would be under a scheme such as that of the National Health and Medical Research Council, or whether that supposition was a matter of conjecture. Dr. Cameron said that it was a matter of conjecture, because under the scheme doctors would be told where to go. Senator Arnold asked whether the scheme would be acceptable if care was taken to arrange for choice of district and for adequate salaries; he wondered whether the figure of £900 to £1,600 *per annum* for general practitioners was too low or too high. Dr. Cameron replied that they had been making much more money than that, but that they all realized that they could not expect to make high incomes in the future. A salary of £1,600 *per annum* with associated benefits was reasonable.

A scheme with a basis such as that under discussion had much in its favour. Compensation should be paid to doctors for the loss of their practices. Superannuation was not so important as what doctors would be able to leave to their wives and children. Not many doctors could retire at the age of sixty-five years, if they were still alive. Dr. Cameron agreed that the necessity to haggle over fees was horrible, the most objectionable part of medical practice. Doctors felt, however, that although under a salaried service that would be abolished, they would have to spend many hours filling in forms. Dr. Cameron thought that if a

scheme could be evolved at the present time in which the objections stated had been overcome, medical men would be agreeable to it. In answer to a further question, Dr. Cameron said that the hospital contribution schemes were local, and had a limited field of operation; but they were State schemes in so far as they were transferable to any other hospital. Formerly each hospital had its own organization; but now the scheme was controlled by a Central Western body, which had just come into being.

A meeting between representative doctors, representatives of the National Health and Medical Research Council and other bodies for the purpose of discussing the opinions that might have been crystallized by the committee could be very easily arranged.

British Medical Association News.

MEDICO-POLITICAL.

A MEETING of the Victorian Branch of the British Medical Association was held on February 3, 1943, at the Medical Society Hall, Albert Street, East Melbourne, Dr. J. A. CAHILL, the President, in the chair.

Statement of Receipts and Expenditure.

DR. C. H. MOLLISON, the Honorary Treasurer, presented the statement of receipts and expenditure of the Victorian Branch of the British Medical Association and of the Medical Society of Victoria for the year ended December 31, 1942. In presenting the statement Dr. Mollison spoke in the following terms.

I have pleasure in presenting the statement of receipts and expenditure of the British Medical Association and the Medical Society of Victoria for the year ended December 31, 1942.

This year I am able to again report a substantial credit balance—£1,621 3s. 4d.—an increase over the previous year of £263 9s. 4d., which, in view of the large decrease in the amount received from subscriptions, is a matter for congratulation.

The amount received for subscriptions during 1942 you will observe was £6,851 5s. 4d., as against £7,754 4s. 9d. in 1941, a decrease of £902 19s. 5d.

Whilst the number of subscriptions paid in 1942 was approximately the same as in 1941, the average amount paid per member was £5 2s. in 1941 and £4 10s. in 1942, a reduction of 10s. per member.

The reasons for this reduction are:

1. The number of members who were entitled to the reduced subscription of £1 11s. 6d. applicable to members of the Forces increased from 286 at December 31, 1941, to 352 at December 31, 1942.

2. Several members who joined the Forces in 1941 had paid the full subscriptions prior to enlistment and had sufficient credit to cover the 1942 subscription.

3. The increase in junior members, many of whom were liable for the subscription for six months only.

4. Arrears of subscriptions paid in 1941 were greater than in 1942, and in most cases the arrears were due by members liable for the payment of subscription at the full scale.

Expenditure, on the other hand, decreased by approximately £262.

The expenditure on salaries increased by £201, due to increases in the salary to the Medical Secretary and to the typists and stenographers. Capitation fees to Federal Council (including arrears for 1941) £76. Rates, taxes and insurance £60, the whole of which is due to the payment of War Damage Insurance contributions. Repairs £33, which represents payment of £21 in 1942 for repairs to the roofs carried out late in 1941 and £10 10s. for tiling portion of the walls of the ladies' cloakroom.

Members may rest assured that strict vigilance is being kept over all expenditure. This is necessary owing to the uncertainty of the future.

The Association is again greatly indebted to the Insurance company. In addition to providing £480 towards the Medical Secretary's salary, its action in voluntarily agreeing to a reduction in the interest rate on its debenture holding from 5% to 1% represents a substantial saving to the society. Furthermore, the company in 1942 made available the sum of £350 for the redemption of debentures, has taken over these debentures, and is for the present accepting interest at the rate of 1% instead of 5% paid to the previous holders.

BRITISH MEDICAL ASSOCIATION, VICTORIAN BRANCH, AND THE MEDICAL SOCIETY OF VICTORIA.

Combined Statement of Receipts and Expenditure for the Year Ended December 31, 1942.

RECEIPTS.			EXPENDITURE		
	£	s. d.		£	s. d.
To Balance at 31st December, 1941—			By British Medical Association—London	1,975	6 2
National Bank of Australasia Ltd.			Medical Benevolent Fund	200	16 4
Medical Society of Victoria	1,283	15 10	Federal Council of the British Medical Association in Australia—Capitation Fees	502	4 0
British Medical Association	61	18 2	Rebates to Subdivisions	22	14 0
Cash in Hand	12	0 0	Library Books and Journals, etc.	£223	4 1
			Less Contribution from British Medical Insurance Co.	94	7 8
Subscriptions	1,357	14 0			128 16 5
Medical Benevolent Fund	6,851	5 4	Salaries—		
British Medical Insurance Co.—Grant	200	16 4	Medical Secretary	£1,000	0 0
Rent of Hall	480	0 0	Office and Library, etc.	981	4 10
Sale of Journals	4	13 0			1,981 4 10
Office Equipment—Sale of Typewriter	2	15 8	Pension—C. S. Crouch	300	0 0
Medical Agency	12	10 0	Debenture Interest	222	5 0
Interest on Commonwealth Loans	2	3 0	Debenture—Prepayment of Principal	350	0 0
British Medical Insurance Co.—Debentures	350	0 0	Audit Fees	15	15 0
			Postages	138	10 2
			Printing and Stationery	80	13 11
			Sundry Expenses	95	3 9
			Bank Charges	3	18 1
			Telephones	64	8 9
			Lighting and Heating	44	13 9
			Rates, Taxes and Insurance	103	13 8
			Repairs	38	13 0
			Travelling Expenses	3	7 8
			Legal Expenses	1	1 0
			Entertainment	11	7 0
			Donations	1	1 0
			By Balance at 31st December, 1942—		
			National Bank of Australasia Ltd.		
			(Medical Society of Victoria)	£829	12 9
			State Savings Bank of Victoria	500	0 0
			Commonwealth Loans	500	0 0
			Cash in Hand	12	0 0
					£1,841 12 9
			Less National Bank of Australasia Ltd. (British Medical Association)	£220	9 5
					1,621 3 4
					£9,268 17 0
					£9,268 17 0

C. H. MOLLISON, Honorary Treasurer.

C. H. DICKSON, Medical Secretary.

Compared with the Books and Accounts of the British Medical Association, Victorian Branch, and the Medical Society of Victoria and found to be in accordance therewith.

Melbourne, 23rd day of January, 1943.

(Signed) J. V. M. WOOD & Co.,
Chartered Accountants (Australia).

This concession represents a further saving of £14 per annum to the society in interest charges. The company now holds debentures of the society to the extent of £2,950 on which interest at the rate of 1% is paid. This represents a saving of £118 per annum in interest charges. The company has also purchased books for the library to the value of £94 7s. 8d. I trust members will show their appreciation for the assistance given by the insurance company by placing as much of their insurance with it as they can possibly arrange. Members should bear in mind that this company is theirs and that its profits will accrue to their good. The company is an asset which members should take particular care to conserve and enhance.

The amount contributed to the Medical Benevolent Fund, £200 16s. 4d., is £23 16s. 7d. more than the previous year. I would particularly draw members' attention to this fund. It is one that should need no recommendation from me. Its sole purpose is to relieve distressed members. Unfortunately its activities have to be restricted to the degree to which members contribute to the fund.

I have pleasure in submitting for adoption the statement of receipts and expenditure.

The financial statement, which was adopted, is published herewith.

Post-Graduate Work.

POST-GRADUATE WORK IN NEW SOUTH WALES FOR 1943.

THE New South Wales Post-Graduate Committee in Medicine announces the following programme for 1943.

Course of Lectures.

A course of lectures will be held at 4.30 to 6 p.m. each Monday afternoon at the Stawell Hall, Royal Australasian College of Physicians, 145, Macquarie Street, Sydney. The first four lectures will be as follows:

1. Monday, March 1, 1943: "Clinical Manifestations of Malaria as seen at a Base Hospital", by Lieutenant-Colonel K. B. Noad.
2. Monday, March 8, 1943: "Common Skin Diseases in the Army", by Colonel A. L. Dawson.
3. Monday, March 15, 1943: Programme will be arranged by the 118th General Hospital Unit, United States Army.
4. Monday, March 22, 1943: "The Surgery of Head Injuries", by Lieutenant-Colonel I. D. Miller.

The lectures will continue each Monday afternoon until April 19, 1943; details of the further lectures will be announced as soon as they are arranged.

To defray the expenses of these lectures the committee has decided to charge a fee of £1 is. for attendance at this course. Members of the defence and allied forces will be admitted free. Those wishing to attend should make application to the Secretary, New South Wales Post-Graduate Committee in Medicine, 145, Macquarie Street, Sydney, or arrange at the post-graduate office just prior to the lectures.

Ward Rounds for Members of the Defence and Allied Forces.

Arrangements have been made for a number of medical officers of the defence and allied forces to attend hospital ward rounds at the Royal Prince Alfred Hospital, Camperdown, on each Tuesday afternoon. The number for

attendance is limited and those who wish to attend should communicate with the Secretary of the Post-Graduate Committee, 145, Macquarie Street, Sydney.

All inquiries concerning post-graduate instruction in any subject should be made to the Secretary of the Post-Graduate Committee, 145, Macquarie Street, Sydney. Telephone B 4606.

Correspondence.

LYMPHOGRANULOMA INGUINALE: AUSTRALIAN RECORDS.

SIR: Dr. H. F. Bettinger in THE MEDICAL JOURNAL OF AUSTRALIA, January 9, 1943, page 24, states that beyond "the demonstration of a few more or less proved cases at some medical meetings, there are no published reports of the disease in this country. Stannus, however, mentions in his monograph a personal communication by J. Vere Arkle, who had seen a number of cases in the gold-mining district of Kalgoolie, as early as 1908".

The following Australian references may be of interest and bring the bibliography up to date.

Thirty years ago Dr. J. H. L. Cumpston called my attention to two articles that had appeared in *The Australasian Medical Gazette* in 1890 and 1891. In this journal (Volume IX, September, 1890, page 319) Dr. Graham Browne has an article on "Charters Towers from 1882 to 1890". In this article occurs a reference to "northern lumps", and he says "I have met with an unusually large number of cases of inflamed inguinal lymphatic glands, these buboes arising apart altogether from venereal disease". Philip James (*loci citati*, Volume X, July, 1891, page 303) in "Remarks on the Fevers and Diseases of Tropical Queensland" refers also to these "northern lumps". It is by no means certain that amongst the cases referred to were examples of *lymphogranuloma inguinale*, but it seems highly probable that some were such, even though there is a reference to their occurring apart altogether from venereal disease.

In 1913, A. J. J. Triado, of Marble Bar, Western Australia, in "Tropical or Climatic Buboes", in *The Australasian Medical Gazette* (May 10, 1913, page 442), stated that he had had fifty cases in nine years, all in white males who had cohabited with aboriginal women.

"Two Cases of Climatic Bubo", under the care of Dr. F. S. Hone, are reported in the *Medical and Scientific Archives of the Adelaide Hospital*, Number 8 (for the year 1928), page 13. Both were sailors and both had undoubtedly contracted the disease outside Australia. A gland was excised from one and showed minute milium abscesses with surrounding endothelial hyperplasia.

The following are recent references.

H. C. Rutherford Darling: "Inflammatory Stricture of the Rectum", *THE MEDICAL JOURNAL OF AUSTRALIA*, September 13, 1937, page 477. Two cases, a woman of 30 and a male of 20, probably of *lymphogranuloma inguinale*, are described. The diagnosis was confirmed later and recorded in a letter under the same title (*loci citati*, November 20, 1937, page 935), a reaction in each case being obtained with Frei antigen contained in inoculated mouse brain, the first such results in Australia. This had been supplied by Dr. G. S. Hayes, of the Department of Public Health, Brisbane, who in a letter entitled "Genito-Ano-Rectal Syndrome (*Lymphopathia Venereum*)" in the same issue (*loci citati*, November 20, 1937, page 936) mentions that he had been observing cases of climatic bubo in venereal clinics and occasionally of esthiomene in prostitutes in the lock hospital.

Eva A. Shipton and T. G. Ross in "*Lymphogranuloma Inguinale (Lymphopathia Venereum)*" in *THE MEDICAL JOURNAL OF AUSTRALIA*, April 16, 1938 (page 707), record the case of a male, aged twenty-three years, who contracted the disease in the Sydney district and in whom the Frei test was positive.

A. M. McIntosh, under the heading of "*Lymphogranuloma Inguinale: Nicholas Favre's Disease*", showed a woman, aged fifty-seven years, at a meeting of the New South Wales Branch of the British Medical Association at the Sydney Hospital (*THE MEDICAL JOURNAL OF AUSTRALIA*, April 30, 1938, page 792). The rectum felt like a hard fixed cylinder. This stricture was dilated. Later the lesion had invaded the perineum and involvement of the posterior vaginal wall was extensive. The Frei antigen test was negative, but the antigen was stale and so probably worthless.

Finally, may I ask Dr. Bettinger whether it is really safe to rely on the histological appearances only, as in the case

of the woman of twenty-four whom he considers to have had *lymphogranuloma inguinale* of her Fallopian tubes. Surely occasionally pyogenic bacteria may produce similar histological appearances. Without a Frei antigen test being employed, the case should perhaps be considered as not more than probably due to the virus of *lymphogranuloma inguinale*.

Yours, etc.,

University of Adelaide,
Adelaide,
February 12, 1943.

J. B. CLELAND.

THE TREATMENT OF LARGE SOFT TISSUE INJURIES BY EXCISION AND PRIMARY SUTURE.

SIR: The situation revealed by Mr. W. A. Hales in his article in *THE MEDICAL JOURNAL OF AUSTRALIA* of February 13 ("The Treatment of Large Soft Tissue Injuries by Excision and Primary Suture") almost passes the bounds of credibility. On what basis of surgical experience, on whose authority, could battle casualties be evacuated immediately with an excised wound sutured? Certainly, on no responsible writing or teaching of the war of 1914-1918 with which I am acquainted. That "excision and primary suture" could be and was in 1917-1918 exploited to the great advantage of the armies and of the men who composed them is as true (and as relevant to the issue raised by Mr. Hales) as is the fact that this technique was rigidly controlled and safeguarded. Not being a surgeon, I have to rely on indirect evidence, but this is to me conclusive. Thus, the "Inter-Allied Surgical Conference" held in Paris in March, 1917, laid down 12 principles. Nos. 7 and 8 of these read as follows:

(7) In the primary treatment of the wound, excision of contused and lacerated tissue and the removal of fragments of clothing or foreign bodies must be considered as the rule, except in certain cases where the patient cannot be kept under supervision.

(8) When the wound has thus been properly prepared, primary suture may give good results, especially in the case of wounds of the joints. Primary suture is not to be undertaken unless the wound is only of some hours' standing (at the most eight hours), and only when the surgeon can retain the patient under his own observation for fifteen days.⁽¹⁾

The American official medical history records the following from French experience:

From July, 1917, to February, 1918, Lemaitre performed 1,618 primary sutures, with 1,555 complete cures, 44 partial cures, and 19 failures.⁽²⁾

Of course, there was misuse of this novel idea and technique, and doubtless some tragic happenings. Success—in surgery, as in all else in life—must be built out of failures. It seems to me that the one unforgivable sin in war medicine is failure to profit by the experience of the past—unforgivable because due to laziness. And herein, as it seems to me (speaking as "a child in these matters"), there lies a surgical risk to which Mr. Hales has not expressly referred. One of the major discoveries of the war of 1914-1918 was the enormous importance of infection by the coccal group—strepto and staphylo—and, as was observed as early as 1915, this is often a secondary infection of an open wound. The "British Official History"—as in articles by Sir G. H. Makins and Colonel C. J. Bond—is emphatic on this matter of secondary infection by the pathogenic cocci. (Incidentally, Dr. A. C. H. Halford's lifelong campaign—"Delenda est Carthago"—against the "aseptic" outlook has its justification in this fact.)

And for the plaster of Paris technique of Winnett Orr and Trueta, surely this is only a means—certainly an admirable one—for procuring rest; of which in 1916 Almroth Wright wrote: "In every case the infected man will need to be kept at rest; and the really heavily infected will require to be kept at absolute rest."⁽³⁾ As summarized in the "Australian Official Medical History":

From the front line to the C.C.S. the promotion of rest, local and corporal—as by careful handling, effective splinting, timely postponement of movement or of operation, and alleviation of pain—often made the difference between success or failure of subsequent treatment. That the quest for rest only too often fails is one of the most poignant agonies of war.⁽⁴⁾

Plaster of Paris seems to have done for this war what the Thomas splint did for that of 1914-1918.

Mr. Hailes has done a notable service by his forceful article; but it is profoundly disturbing to realize that such a warning should be necessary.

Yours, etc.,

A. G. BUTLER.

Canberra,
February 15, 1943.

References.

⁽¹⁾ Quoted in the "Official History of the Australian Army Medical Services, 1914-18", Volume II, page 331.

⁽²⁾ *Ibidem*, page 330, f.n. 62.

⁽³⁾ *Ibidem*, page 342.

Naval, Military and Air Force.

APPOINTMENTS.

THE undermentioned appointments, changes *et cetera* have been promulgated in the *Commonwealth of Australia Gazette*, Numbers 27 and 32, of February 4 and 11, 1943.

NAVAL FORCES OF THE COMMONWEALTH. Permanent Naval Forces of the Commonwealth. (Sea-Going Forces.)

Extension of Appointment.—The appointment of Surgeon Captain William James Carr, C.B.E., is extended for a period of one year from 29th January, 1943.

Pricing Rates of Pay.—Surgeon Lieutenant Leo John Harrison to be paid the rates of pay and allowances prescribed in the Naval Financial Regulations for Surgeon Lieutenant-Commander (on promotion), whilst acting in that rank, dated 27th January, 1943.

Citizen Naval Forces of the Commonwealth.

Royal Australian Naval Reserve.

Appointment.—Henry George Rischbleth is appointed Surgeon Lieutenant, dated 18th January, 1943.

ROYAL AUSTRALIAN AIR FORCE.

Citizen Air Force: Medical Branch.

Temporary Flight Lieutenant R. V. Pridmore (1260) is granted the acting rank of Squadron Leader whilst occupying a Squadron Leader post with effect from 11th June, 1942.—(Ex. Min. No. 39—Approved 10th February, 1943.)

The following Flight Lieutenants are transferred from the Reserve, with effect from 11th January, 1943: R. G. Bligh (3611), D. S. Kidd (6325), D. Scanlan (7221), W. J. Simmonds (6864), J. R. Wadsworth (7086).

CASUALTIES.

ACCORDING to the casualty list received on February 19, 1943, Major E. A. Rogers, A.A.M.C., Hobart, who was previously reported missing, is now reported to be a prisoner of war.

Obituary.

DENBY DE COURCEY BROWNING.

WE regret to announce the death of Dr. Denby de Courcey Browning, which occurred on December 20, 1942, at Burwood, New South Wales.

RODERICK PATRICK QUINN.

WE regret to announce the death of Dr. Roderick Patrick Quinn, which occurred on February 11, 1943, at Summer Hill, New South Wales.

Notice.

MEMBERS of the Victorian Branch of the British Medical Association are reminded that a special meeting will be held at the Royal Australasian College of Surgeons on Wednesday, March 3, 1943, to consider and, if thought fit, to adopt amendments to the rules of the Branch to provide for the establishment of an organization fund.

At the conclusion of the special meeting there will be an ordinary meeting of the Branch to discuss the future of medical practice.

Nominations and Elections.

THE undermentioned have applied for election as members of the New South Wales Branch of the British Medical Association:

- Bertinsshaw, Leonard Dolan, M.B., B.S., 1942 (Univ. Sydney), 36, Crow's Nest Road, Waverton.
- Greenberg, Leslie Leonard, M.B., B.S., 1942 (Univ. Sydney), 99, Drumalbyn Road, Bellevue Hill.
- Ariotti, Louis Charles Anthony, M.B., 1941 (Univ. Sydney), 55, Dalhousie Street, Haberfield.
- Opie, James Gordon, M.B., 1942 (Univ. Sydney), Balmain Hospital, Balmain.
- Opie, Richard Cunynghame, M.B., 1941 (Univ. Sydney), 185, Molesworth Street, Lismore.

Diary for the Month.

- MAR. 2.—New South Wales Branch, B.M.A.: Organization and Science Committee.
- MAR. 3.—Western Australian Branch, B.M.A.: Council.
- MAR. 4.—New South Wales Branch, B.M.A.: Special Groups Committee.
- MAR. 4.—South Australian Branch, B.M.A.: Council.
- MAR. 5.—Queensland Branch, B.M.A.: Branch.
- MAR. 9.—New South Wales Branch, B.M.A.: Executive and Finance Committee, Ethics Committee.
- MAR. 9.—Tasmanian Branch, B.M.A.: Branch.
- MAR. 12.—Queensland Branch, B.M.A.: Council.
- MAR. 15.—Federal Council, B.M.A.: Meeting at Melbourne.

Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

New South Wales Branch (Honorary Secretary, 135, Macquarie Street, Sydney): Australian Natives' Association; Ashfield and District United Friendly Societies' Dispensary; Balmain United Friendly Societies' Dispensary; Leichhardt and Petersham United Friendly Societies' Dispensary; Manchester Unity Medical and Dispensing Institute, Oxford Street, Sydney; North Sydney Friendly Societies' Dispensary Limited; People's Prudential Assurance Company Limited; Phoenix Mutual Provident Society.

Victorian Branch (Honorary Secretary, Medical Society Hall, East Melbourne): Associated Medical Services Limited; all Institutes or Medical Dispensaries; Australian Prudential Association, Proprietary, Limited; Federated Mutual Medical Benefit Society; Mutual National Provident Club; National Provident Association; Hospital or other appointments outside Victoria.

Queensland Branch (Honorary Secretary, B.M.A. House, 225, Wickham Terrace, Brisbane, B.17): Brisbane Associated Friendly Societies' Medical Institute; Bundaberg Medical Institute. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL or position outside Australia are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.

South Australian Branch (Honorary Secretary, 173, North Terrace, Adelaide): All Lodge appointments in South Australia; all Contract Practice appointments in South Australia.

Western Australian Branch (Honorary Secretary, 205, Saint George's Terrace, Perth): Wiluna Hospital; all Contract Practice appointments in Western Australia.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

All communications should be addressed to the Editor, THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, New South Wales. (Telephones: MW 2651-2.)

Members and subscribers are requested to notify the Manager, THE MEDICAL JOURNAL OF AUSTRALIA, Seamer Street, Glebe, New South Wales, without delay, of any irregularity in the delivery of this journal. The management cannot accept any responsibility unless such a notification is received within one month.

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